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VOLUME 2

Edited by

FRANCIS HEMMING, C.M.G., C.B.E.
Secretary to the International Commission on Zoological Nomenclature

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FOREWORD

The present is the first volume of the *Bulletin of Zoological Nomenclature* dealing with individual nomenclatorial problems to be published since the end of the war. The first Part was published in April 1951 and the last Part (Part 11), exclusive of the present index Part, was published in September of that year. The total period covered by the publication of these eleven Parts was therefore five months. Volume 1 (apart from the index Part—Part 12) was completed in March 1947, and the long interval before the commencement of publication of the present volume is due to the fact that it was decided in 1948 to give priority to the three volumes of the *Bulletin* (Volumes 3 to 5) devoted to the documents considered in Paris in that year by the International Commission on Zoological Nomenclature and the Thirteenth International Congress of Zoology, and of the *Official Records* of the Proceedings of those bodies. Thus it is that, although the second of the series of volumes of the *Bulletin*, the present was, in fact, the fifth of those volumes to be started.

2. The present volume, which contains 474 pages (T.P.-xxvi, 1-448), comprises 135 papers, of which 62 are original applications submitted to the International Commission on Zoological Nomenclature and 73 are comments by specialists upon those applications and, in one case (*Gryphaea* Lamarck) upon an applicationa already published in another volume (Volume 3).

3. Of the 62 original applications, two deal with names belonging to two different Classes of the Animal Kingdom. For practical purposes, therefore, the present volume contains 64 applications submitted to the International Commission for decision. Similarly, four of the applications published in the present volume are joint applications by two or more joint authors. When account is taken of this fact, the number of applicants is found to amount to 84.

4. Of the 64 applications published in the present volume, two ask for *Declarations* from the International Commission on the meaning of individual provisions in the *Règles*, three relate to the status of names published in certain books, while fifty-nine are concerned with individual scientific names.

5. The 59 applications relating to individual names published in the present volume, when grouped by references to the Classes of the Animal Kingdom to which the genera or species concerned belong, are distributed as follows :—

Distribution of applications, by Classes of the Animal Kingdom

Name of Class	*Number of applications*
Rhizopoda	2
Nematoda	1
Crustacea	6
Insecta	19
Merostomata	1
Gastropoda	4
Pelecypoda	6
Cephalopoda	17
Brachiopoda	1
Reptilia	1
(indeterminate)	1
	59

6. When the 84 applicants are arranged by reference to the countries in which they are resident, applications are seen to have been received from residents of the following countries (arranged in alphabetical order) : –

Distribution of applicants, by country of residence

Country	*Number of applicants*
United States of America	33
Argentina	1
Great Britain	40
Denmark	1
Germany	1
Netherlands	6
Norway	1
Switzerland	1
	84

7. The exceptionally large number of applications relating to the names of genera and species of the Class Cephalopoda is due to the receipt of a large number of such applications in relation to ammonites submitted by Dr. W. J. Arkell, the author of the relevant portion of the forthcoming international *Treatise on Invertebrate Paleontology* (General Editor : Professor Raymond C. Moore, University of Kansas) for the purpose of assuring a sound legal foundation for the names to be used in that important standard work.

8. Forty-nine (77 per cent.) of the applications published in this volume are applications by specialists for the use by the International Commission on Zoological Nomenclature of its plenary powers for the purpose of promoting stability and uniformity in nomenclature and of preventing the confusion which, in the opinion of the applicants, would result from the strict application of the ordinary provisions in the *Règles* in these cases.

9. The applications published in this volume contain proposals for the addition of 145 names to the *Official List of Generic Names in Zoology*, and of 277 names to the *Official List of Specific Trivial Names in Zoology*. In addition, 86 generic names are proposed for final burial by being placed on the *Official Index of Rejected and Invalid Generic Names in Zoology* and 21 trivial names for similar final disposal on the *Official Index of Rejected and Invalid Specific Trivial Names in Zoology.*

10. Of the 73 comments published in this volume, 5 relate to more than one application. When account is taken of this fact, the total number of comments on applications published is found to be 89. Of these, 4 are comments on proposed *Declarations* and one is a comment on a proposal relating to the status of a book. The remaining 84 comments relate to applications concerning individual names. All the applications to which these comments relate have been published in the present volume, except one (relating to the name *Gryphaea* Lamarck) which was submitted to the Commission during its Session held in Paris in 1948 and which was therefore published in volume 3 of the present work.

11. When the applications on which comments have been received, are grouped by reference to the genera and species concerned, it is found that the distribution of those comments is as follows :—

Distribution of comments on applications relating to particular names, by Classes of the Animal Kingdom

Name of Class	*Number of comments*
Rhizopoda	1
Nematoda	1
Crustacea	23
Insecta	31
Merostomata	2
Gastropoda	2
Pelecypoda	9
Cephalopoda	9
Brachiopoda	3
Reptilia	2
(indeterminate)	1
	84

12. The exceptionally large number of comments received in regard to applications relating to the names of Crustacea and Insecta are concerned mainly with two applications which aroused particular interest. The first of these was the application (Application Z.N.(S.)231) regarding the names *Crangon* Weber, 1795, and *Crangen* Fabricius, 1798; the second was the group of applications relating to generic names in the Order Diptera published by Meigen in 1800.

13. On many of the applications published in this volume comments were received too late for inclusion. These comments will be found in volume 6.

14. Of the 73 comments published in the present volume, three were submitted by two or more joint authors. Taking this into account, the total number of specialists who submitted comments is found to be 85.

15. When the 85 authors of comments published in this volume are grouped by reference to their country of residence, it is found that the distribution is as follows :—

Distribution of authors of comments by country of residence of the authors concerned

Country	*Number of authors of comments*
United States of America	29
Argentina	2
Australia	1
Great Britain	39
British West Indies	1
Canada	1
Denmark	2
France	4
Germany	4
Netherlands	2
	85

16. Under the procedural decisions taken by the International Commission on Zoological Nomenclature at Paris in 1948, the " Summaries " of *Declarations* or, as the case may be, of *Opinions* rendered by the International Commission on the applications published in the present volume will be published in the first available Part of the then current volume of the *Bulletin*, directly those *Declarations* or *Opinions* are adopted by the International Commission.

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Regent's Park, LONDON, N.W.1,
England.

11*th October* 1952.

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Secretary to the International Commission on Zoological Nomenclature

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BULLETIN OF ZOOLOGICAL NOMENCLATURE

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NOTICES PRESCRIBED BY THE INTERNATIONAL CONGRESS OF ZOOLOGY

The following notices are given in pursuance of decisions taken, on the recommendation of the International Commission on Zoological Nomenclature (see 1950, *Bull. zool. Nomencl.* **4** : 51–56, 57–59), by the Thirteenth International Congress of Zoology, Paris, July 1948 (see 1950, *Bull. zool. Nomencl.* **5** : 5–13, 131).

(a) Date of commencement by the International Commission on Zoological Nomenclature of voting on applications published in the "Bulletin of Zoological Nomenclature"

NOTICE is hereby given that normally the International Commission will start to vote upon applications published in the *Bulletin of Zoological Nomenclature* on the expiry of a period of six calendar months from the date of publication in the *Bulletin* of the applications in question. Any specialist who may desire to comment upon any of the applications published in the present Part (vol. 2, Part 1) of the *Bulletin* is accordingly invited to do so in writing to the Secretary to the Commission as quickly as possible and, in any case, in sufficient time to enable the communication in question to reach the Secretariat of the Commission before the expiry of the six-month period referred to above.

(b) Notice of the possible use by the International Commission on Zoological Nomenclature of its plenary powers in certain cases

1. NOTICE is hereby given that the possible use by the International Commission on Zoological Nomenclature of its plenary powers, is involved in applications published in the present Part of the *Bulletin of Zoological Nomenclature* in relation to the following names :—

(1) *Pleurocera* Rafinesque, 1818 (Class Gastropoda) (Z.N.(S.)83).
(2) *Aphidius* Nees, 1818 (Class Insecta, Order Hymenoptera) (Z.N.(S.) 149).
(3) Trivial name *ajax* Linnaeus, 1758 (as published in the binominal combination *Papilio ajax*) (Class Insecta, Order Lepidoptera) (Z.N.(S.)192).
(4) *Mytilus* Linnaeus, 1758 (Class Pelecypoda, Order Filibranchiata (proposed validation of an error in *Opinion* 94) (Z.N.(S.)193).

2. Comments received in sufficient time will be published in the *Bulletin* ; other comments, provided that they are received within the prescribed period of six calendar months from the date of publication of the present Part will

Notices prescribed by the International Congress of Zoology (*continued*)

be laid before the International Commission on Zoological Nomenclature at the time of commencement of voting on the application concerned.

3. In accordance with the arrangement agreed upon at the Session held by the International Commission on Zoological Nomenclature in Paris in 1948 (see 1950, *Bull. zool. Nomencl.* **4** : 56) corresponding Notices have been sent to the journals " Nature " and " Science."

FRANCIS HEMMING,
Secretary to the International Commission on Zoological Nomenclature.

Secretariat of the International
Commission on Zoological Nomenclature,
28, Park Village East, Regent's Park,
LONDON, N.W.1, England.
10*th April*, 1951.

PRINCIPLES ADOPTED IN THE SELECTION OF APPLICATIONS FOR IMMEDIATE PUBLICATION IN THE " BULLETIN OF ZOOLOGICAL NOMENCLATURE "

Decisions taken by the International Commission on Zoological Nomenclature

1. In the latter part of the year 1950, the International Commission had under consideration the question of the principles to be adopted in the selection of applications for immediate publication in the *Bulletin of Zoological Nomenclature*. This matter clearly required careful consideration, for at the date in question (31st October, 1950), it was estimated that there were about 270 applications awaiting consideration ; it was evident that the publication of this large body of applications would inevitably require a considerable period of time (both because of the fact that the Commission possessed no assured annual income and also because it possessed no whole-time salaried staff and had, therefore, to rely for the discharge of the whole of the work of the Secretariat upon its honorary spare-time officers). Accordingly, in any given case the date on which a decision would be taken by the Commission would necessarily turn to a considerable extent upon the order selected for the publication of the applications awaiting consideration by the International Commission.

2. As the result of the consideration of this question, the International Commission on Zoological Nomenclature decided that the selection of applications for immediate publication in the *Bulletin of Zoological Nomenclature* was to be made in accordance with the following principles and requested the Secretary to the Commission to proceed accordingly :—

(1) Subject to the qualification noted in paragraph 3 below, applications are, so far as practicable, to be published in the order in which they were originally received, except where this would interfere with the prompt publication of applications falling in the classes specified in (2) below.

(2) Preference is to be given to applications which for any reason are of exceptional urgency, such as applications falling in the following

classes :—

- (*a*) applications relating to matters which the International Commission has indicated or may in the future, indicate are to be treated as of exceptional urgency, *e.g.*, applications submitted, in accordance with the invitation issued by the International Commission at its Paris Session, with the object of putting an end to the confusion in the nomenclature of the Order Diptera (Class Insecta) arising out of the long-standing controversy regarding the names published by Meigen in 1800 in his *Nouvelle Classification des Mouches à deux Ailes* (see *Bull. zool. Nomencl.* **4** : 558) ;
- (*b*) applications on which decisions are needed as a preliminary to the publication of important books, *e.g.*, the *Treatise on Invertebrate Paleontology*, now in preparation under the General Editorship of Professor Raymond C. Moore (University of Kansas) ;
- (*c*) applications relating to well-known names suddenly threatened by the excavation of long-forgotten and totally overlooked names.

3. Applications received by the International Commission range from (1) applications which (*a*) contain all the data (including bibliographical references) necessary to enable the Commission to reach a decision on the question submitted and (*b*) which are presented in the desired manner, that is, typed, double-spaced, on one side of the page only and with wide margins, and furnished in duplicate, to (2) applications which comply with some only, or with none, of the foregoing requirements. Applications of the latter kind involve a considerable amount of correspondence with specialists and/or additional clerical and typing work in the Secretariat, before they can be submitted to the Commission ; the Commission has accordingly decided that, while every effort should be made to complete applications of this kind as rapidly as possible, the publication of later applications submitted with all the necessary particulars is not to be held up, while this is being done.

4. Applications are given Registered Numbers in the Z.N. (S.) Series immediately upon receipt. Normally therefore, the relative date of receipt of any two applications may be determined in this way. It should be noted however, that this is not always the case ; for (1) preliminary enquiries and tentative applications are sometimes registered initially in the Z.N. (G.) Series, until it is clear that an application is going to be made ; (2) Some applications, when received, deal with more than one subject and it is sometimes found convenient at a later stage, to break up such applications, assigning a separate Registered Number to each of the component items, with the result that the applications so separated bear a higher number than would correspond to their original date of receipt.

FRANCIS HEMMING,
Secretary to the International Commission on Zoological Nomenclature.

1*st March*, 1951.

PERSONNEL OF THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

Death of Commissioner Paul Rode

The International Commission on Zoological Nomenclature much regret to announce the death of their colleague Commissioner Paul Rode (France).

Retirement of Commissioner Karl Jordan

The International Commission on Zoological Nomenclature much regret to announce that in May, 1950, they were informed by Commissioner (and Honorary Life President) Karl Jordan (United Kingdom) that on account of age and increasing deafness he had decided to resign his active Membership of the Commission. The Commission felt bound to respect Commissioner Jordan's wishes in this matter. They are, however, happy to think that there will be no break on this account in their close association with Dr. Jordan, an association which began thirty-seven years ago when at Monaco in 1913 he was elected a Member of the Commission and which became still closer when in 1929 he was elected to be their President in succession to the late Professor F. Monticelli (Italy), for, although Dr. Jordan is no longer an active Member of the Commission, he retains the Office of Honorary Life President, to which he was elected by acclamation by the Thirteenth International Congress of Zoology at its meeting held in Paris in July, 1948.

Personnel of the International Commission on Zoological Nomenclature (*continued*)

Election of Commissioners

In accordance with the procedure prescribed by the Thirteenth International Congress of Zoology, Paris, July, 1948, the following elections to the Membership of the Commission have been made by the Executive Committee of the Commission, with effect from the dates severally specified below :—

Teiso Esaki (Japan), Professor of Entomology, Kyushu University, Kyushu (re-election) (17th April, 1950).

Pierre Bonnet (France), Professor of Zoology, University of Toulouse (9th June, 1950).

Norman Denbigh Riley (United Kingdom), Keeper, Department of Entomology, British Museum (Natural History), London (9th June, 1950).

Tadeusz Jaczewski (Poland), Professor of Entomology, University of Warsaw, Warsaw (re-election) (15th June, 1950).

Robert Mertens (Germany), Professor, Natur-Museum Senckenberg der Senckenbergische Naturforschende Gesellschaft, Frankfurt a. Main (5th July, 1950).

Erich Martin Hering (Germany), Professor, Zoologisches Museum der Universität, Berlin (5th July, 1950).

FRANCIS HEMMING,

Secretary to the International Commission
on Zoological Nomenclature.

Secretariat of the Commission :
28, Park Village East, Regent's Park,
LONDON, N.W.1, England.

1st December, 1950.

REPORT ON THE QUESTION WHETHER, IN ORDER TO AVOID CONFUSION IN NOMENCLATURE, IT IS DESIRABLE THAT THE PLENARY POWERS SHOULD BE USED BY THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE TO VARY THE TYPE SPECIES OF THE GENUS "PLEUROCERA" RAFINESQUE, 1818 (CLASS GASTROPODA, ORDER MESOGASTROPODA)

By FRANCIS HEMMING, C.M.G., C.B.E.
(*Secretary to the International Commission on Zoological Nomenclature*)

(Commission's reference Z.N.(S.)83)

I. Statement of the case

1. The purpose of the present Report is to examine the question whether or not it is desirable that, in order to avoid confusion in nomenclature, the International Commission on Zoological Nomenclature should use its plenary powers for the purpose of designating, as the type species of the genus *Pleurocera* Rafinesque, 1818, the species (*Pleurocera acuta* Rafinesque, 1831), which for nearly eighty years has been accepted as the type species or whether the general interest would be better served by accepting as the type species the species (*Pleurocera verrucosa* Rafinesque, 1820), which is undoubtedly the type species under the *Règles*, but which is regarded by interested specialists as being referable to a genus distinct from *Pleurocera* Rafinesque as currently understood.

2. The facts of this case are as follows :—

(1) The generic name *Pleurocera* Rafinesque, 1818 (*Amer. mon. Mag.* **3** : 355) was published with a generic diagnosis ; no type species was designated or indicated ; the names of six new nominal species were cited under the generic name *Pleurocera*, but no description, definition or other " indication " was given for any of these nominal species. The names so used by Rafinesque are therefore *nomina nuda* and accordingly have no bearing on the choice of the species to be selected as the type species of the genus.

(2) In 1819 (*J. Phys. Bruxelles* **87** : 423) Rafinesque gave a revised definition of the genus *Pleurocera* Rafinesque, 1818, but he did not, when doing so, cite the name of any nominal species as being referable to this genus.

(3) It was not until 1820 that the name of a nominal species possessing rights under the Law of Priority was cited as belonging to the genus *Pleurocera* Rafinesque, 1818. This was when Rafinesque himself published the specific name *Pleurocera verrucosa* Rafinesque, 1820 (*Ann. Nat.* **1820** : 11) and characterised the nominal species so named.

(4) In 1831, Rafinesque (*Enum. Account* : 2) published the name *Pleurocera acuta* as the name of a new nominal species, which he duly characterised.

(5) In 1864, Tryon brought into use the name *Pleurocera* Rafinesque, 1818, which until then had been neglected. As so reintroduced by Tryon, the generic name *Pleurocera* Rafinesque applied to the group of species which includes the species *Pleurocera acuta* Rafinesque, 1831.

(6) In 1912, Hannibal (*Proc. malac. Soc. Lond.* **10** : 169) selected *Pleurocera verrucosa* Rafinesque, 1820, as the type species of the genus *Pleurocera* Rafinesque, 1818.

(7) In 1917, Pilsbry (*Nautilus* **30** : 110) accepted the action taken by Hannibal in 1912.

(8) In 1917, following upon the foregoing paper by Pilsbry, Bryant Walker (*Occasional Papers Mus. Zool. Univ. Mich.* **38** : 10) argued that the conclusion reached by Hannibal (1912) and Pilsbry (1917) was not in conformity with the ruling given in the Commission's *Opinion* 46 and that, under a correct reading of that ruling, the type species of *Pleurocera* Rafinesque, 1818, was under the *Règles* not *Pleurocera verrucosa* Rafinesque, 1820 (as alleged by Hannibal and Pilsbry) but *Pleurocera acuta* Rafinesque, 1831.

3. In spite of having in 1917 accepted Hannibal's view that *Pleurocera verrucosa* Rafinesque was the type species of the genus *Pleurocera* Rafinesque, Dr. H. A. Pilsbry (Academy of Sciences, Philadelphia, Pennsylvania, U.S.A.) must have felt doubts about the wisdom of disturbing the uninterrupted practice of the preceding 50 years, for in 1925 he decided to refer this question to the International Commission on Zoological Nomenclature with a view to obtaining a decision by which to guide himself in a book which he was then engaged in writing. Accordingly, on 15th January, 1925, Dr. Pilsbry addressed a letter, with enclosures, on this subject to the Secretary to the Commission. In his covering letter, Dr. Pilsbry, after explaining that at that stage he was concerned only to obtain from Dr. Stiles a preliminary opinion on the question of the type species of the genus *Pleurocera* on the basis of the documents enclosed with his letter, proceeded as follows :—

> If you think *P. acuta* can stand as type, I will accept that in a work I have in hand without further discussion, as this will not modify the usage current for fifty years. But, if you think that *P. verrucosa* will have to stand as type, I will expand the statement and submit to the Commission, in order to have authority for making a change in the names of two well-known genera.

4. The following is the text of the two documents enclosed with Dr. Pilsbry's letter of 15th January, 1925 :

(1) *Enclosure No.* 1 *to Dr. Pilsbry's letter of* 15*th January*, 1925.

Type of *Pleurocera* Raf.

The terms of Rafinesque's original diagnosis of *Pleurocera*, 1818, were sufficiently general to cover species of several subsequent genera, such as *Augitrema* Hald. or *Trypanostoma* Lea. He mentioned several species but none of them was ever described or recognised otherwise. In 1819, he redefined the genus in terms fully applicable to the later genus *Trypanostoma*.

In 1820 Rafinesque described *Pleurocera verrucosa*, a species which might fall within the very general terms of his first definition of *Pleurocera*, but it would certainly be excluded from

Pleurocera as redefined in 1819. This species was designated type of *Pleurocera* by Hannibal in 1912. It was the first species described under that generic name.

In 1831 Rafinesque described three species of *Pleurocera*, of which one, *P. acuta* of Lake Erie, is a well-known mollusk, clearly identical with the later *Trypanostoma subulare* Lea, described from Niagara River. *P. acuta* agrees fully with Rafinesque's generic definitions. *P. acuta* was designated type of *Pleurocera* by Walker (*Occ. Pap. Mus. Zool. Univ. Mich.* No. 38, p. 9, 1917). He took the ground that Rafinesque erred in referring the species *verrucosa* to *Pleurocera*, and that Hannibal therefore had made an unlawful type designation.

Question : Can Walker's designation of *P. acuta* as type of *Pleurocera* be upheld?

Remarks : Opinions vary as to whether *P. verrucosa* falls within the terms of Rafinesque's 1818 definition. I am inclined to grant that it does, though if I had mollusk and definition before me unprejudiced by names, I probably would not think to connect them. Walker thinks them incompatible. It is a matter of individual opinion. That *P. verrucosa* would certainly not fall within the terms of Rafinesque's second (1819) definition of *Pleurocera* all admit.

Pleurocera has been universally used for species congeneric with *P. acuta* Raf. since 1872, when Tryon adopted it in a monograph of the family (*Smithsonian Misc. Coll.* No. 253).

(2) *Enclosure No.* 2 *to Dr. Pilsbry's letter of* 15*th January* 1925

As to *Pleurocera :* *P. acuta* Raf. was described from Lake Erie, but it is a widely spread species, very common in the Ohio and upper Mississippi valleys generally. It may well have been one of Rafinesque's 1818 species—in fact he must have seen it time and again—but I believe that there is no actual evidence whatever to connect it with any of his 1818 species. Of the latter, several have names applicable enough to *acuta*, which may be either banded or plain " corneous ", and could be called turreted.

There is no hope of finding any of Rafinesque's specimens of the genus. We have here a set of his Unionidae, but no gastropods ; and in a long acquaintance with practically all the old collections in the country, I never came upon any Rafinesquian specimens other than ours. His own collection is supposed to have been burned.

There is a manuscript by Rafinesque, " Conchologia Ohioensis ", in the U.S.N.M. from which W. G. Binney copied a figure of *Pleurocera* in *Smiths. Misc. Coll.* No. 144 (1865), p. 62, fig. 126. This figure is a fair (or for Rafinesque, unusually good) representation of a two-thirds grown *Pleurocera neglectum* Anthony, which is now considered to be a form of *P. acutum* Raf. Goodrich, who has looked into the matter, considers it a synonym of *P. subulare* Lea, which is now acknowledged to be the same as *P. acutum* Raf. (*Nautilus* Vol. 30, p. 124).

This figure applies to *Pleurocera* as that genus was defined in Rafinesque's second diagnosis. It was so understood by Tryon (*Smith. Misc. Coll.* No. 253, p. 49) and followed by everybody until Hannibal named *P. verrucosa* Raf. as type. The latter is a wholly different shell—and I would not think that any of the 1818 specific names of Rafinesque could apply to it.

5. On 18th January, 1928, Dr. Stiles consulted Dr. Paul Bartsch (then Curator of Mollusks and Cenozoic Invertebrates, United States National Museum, Washington, D.C.) who on 20th January, 1928, replied as follows :—

Glancing merely at the evidence presented here, which seems to be complete, for both Pilsbry and Walker have gone over it, the case appears to me quite plain. Rafinesque in defining *Pleurocera* in 1818, gives such a broad definition that it will hit almost anything in the large conic North American fresh water gastropods. The six names which are associated with this definition are *nude* names and therefore have no status whatever in nomenclature. The genus consequently at its creation had no type. If my interpretation of *Opinion* 46 is correct, then the first species described under the generic name after the creation of a genus without type becomes *ipso facto* the type of that genus. If this is the case, the Rafinesque's *Pleurocera verrucosa* will have to serve for that species [i.e. for the type species], unless Pilsbry makes a strong case, that following the Code will cause greater confusion than getting a special ruling from your Commission.

6. On 8th August, 1928, Dr. Stiles forwarded copies of the papers relating to this case to the under-mentioned specialists with a request for their comments thereon : (1) Dr. B. B. Woodward (London) ; (2) Mr. Frederick Chapman (National Museum, Melbourne, Australia). The replies received from these specialists were as follows :—

(1) *Reply, dated* 23*rd August*, 1928, *received from Dr. B. B. Woodward :*

The type of *Pleurocera* Raf., if the Rules be followed, is clearly *P. verrucosa.*

Rafinesque's genus as defined by him in 1818 and again in 1819 was obviously a composite, while the species named were not described and cannot, therefore, be considered. In 1820 he described *P. verrucosa* and this by the Rules and *Opionion* 46 manifestly becomes the type.

Mr. Bryant Walker asserts that *verrucosa* does not fall within Rafinesque's original diagnosis, while the statement is made, without proof, in one of the appended papers that it might fall within the first definition, but not within that of 1819. Surely, however, the author himself must have had a better idea of his own conception of his genus *Pleurocera* than those who sought to interpret it later, and who unfortunately in subdividing the genus assigned its rightful type to one of the new genera. Hence the present trouble.

(2) *Reply, dated* 3*rd October*, 1928, *received from Mr. Frederick Chapman :*

After studying the opinions and literature on the subject of the type of *Pleurocera* Raf., it seems clear by the evidence submitted that, by Article 30, Rule II(g), *verrucosa*, by subsequent designation (by the author himself in this case) becomes the type species.

7. In December 1928, Dr. Stiles wrote to Dr. Pilsbry, stating that he had been collecting the views of specialists on this case and asking, with reference to the concluding portion of his letter of 15th January, 1925 (see paragraph 4 of the present Report), whether Dr. Pilsbry desired to add anything to his application before he (Dr. Stiles) submitted it to the Commission for consideration. Dr. Pilsbry replied, on 20th December, 1928, as follows :—

I have been thinking about the case of *Pleurocera* since receiving your note. It appears to me that the path of least resistance for all concerned would be to rule *Pleurocera verrucosa* Raf. out as a genotype on the ground that it does not agree with the definition and select the later species *Pl. acuta* Raf. as genotype.

Rafinesque's first definition (*Amer. Monthly Mag. and Crit. Rev.* III, 1818, 355) was in rather general terms, but he stated that the mouth was diagonal, *rhomboidal*, the columella flexuous, *entire* (that is, without plaits or other interruptions). In the following year, he added some further characters (*Journ. de Physique*, 1819, 423) (Tryon's reprint p. 25). No described species was mentioned in either paper.

In the comparison below I have used both diagnoses, as it appears only fair to make use of all the data he published for the elucidation of his genus, up to the time when a type would give any other criterion.

Rafinesque's definition of his *Pleurocera verrucosa* differs from the original diagnosis of *Pleurocera* in several important respects, recognised as of generic value before the middle of the last century. I quote two important characters :—

Pleurocera	*P. verrucosa*
" mouth diagonal, crooked, rhomboidal "	[mouth nearly in plain of axis, not rhomboidal]
" ouverture oblique, oblong, base prolongée tordue, sommet aigu "	" base of the opening obtuse "
" Columella flexuous, entire"	" inside lip thickly plaited "
" la columelle qui est lisse et tordue "	

This very well expresses the generic differences in the shells. *Pleurocera* has the base (anterior end) of the aperture produced in a somewhat twisted spout, and the columellar margin is smooth. In *Angitrema verrucosa* the aperture is obtuse at base, and the " inside lip ", or columellar lip, has thick callous deposits above and below, which Rafinesque referred to as plaits (a term formerly much used for such columellar structures). This is directly opposed to the " entire " or " lisse " of his two diagnoses of *Pleurocera*. The aperture of *P. verrucosa* is not rhomboidal, as called for in the original description of *Pleurocera*. This form of aperture is characteristic of *Pleurocera.*

I do not expect you to go into the conchology of the question, but I am sending you specimens so that you may readily see that Rafinesque's first species [i.e. *P. verrucosa*] did not agree with the specifications he had set forth for *Pleurocera*. His later described *P. acuta* does agree.

The group Rafinesque originally intended was doubtless the horn-shaped species common in the Ohio, etc. This is shown by the definitions, the name, and the figure he drew for his " Conchologia Ohioensis " (unpublished), which Binney published in " Land and Fresh Water Shells of N.A. ", part 3, page 62, fig. 126 (*Smithson. Misc Coll.* No. 144). When he referred the ovate, knobby " *P. verrucosa* " to the genus, probably he had forgotten the characters of his earlier group, or it may be that the devil prompted him.

Pleurocera has never been used for any species of the group of " *P. verrucosa* " except by Rafinesque in this one case, though it was designated type by Hannibal. It has universally been used for the numerous group of horn-shaped species of which *P. acuta* Raf. is a good example. To accept *verrucosa* as type would muddle the names of two large genera, and for the life of me I cannot see who would gain by it.

I have written Bartsch about this, and asked him to consult with you. He has never worked with these fresh-water mollusks, but he knows how universally *Pleurocera* is accepted. I think that, if you could get the consensus of opinion of those dealing with these animals, it would be practically unanimous for conserving the present nomenclature.

8. The case of *Pleurocera* was not placed on the agenda for consideration by the Commission either at its Session held at Padua in 1930, or at that held in Lisbon in 1935, and no reference was made to it on either of these occasions.

9. When, following my election in 1936 as Secretary to the Commission, the records of the Commission were transferred to my custody, I found among them the correspondence relating to the case of *Pleurocera* summarised in paragraphs 3 to 7 above. This case was thereupon allotted the Registered Number Z.N. (S) 83, in the new series then established. Unfortunately, pre-occupation with the serious administrative and financial problems facing the Commission consequent upon the transfer of the Secretariat to London, made it impossible for me to make any progress with this and other old cases before the outbreak of war in Europe in September, 1939, put a stop for the time being to the work of the Secretariat of the Commission. When in 1942 it was found possible to reopen the Secretariat, I devoted myself in the first instance to arranging for the publication in the newly established *Bulletin of Zoological Nomenclature* of all those of the applications awaiting the attention of the Commission which had reached a sufficiently advanced state to permit of that course. It was not until towards the end of 1944 that I was able to turn to those of the outstanding applications on which further inquiries were necessary before they could be placed before the Commission by being published in the *Bulletin*.

10. On reading the papers relating to the present case, it was evident that in 1928—the latest date covered by the correspondence concerned—notwithstanding the fact that *Pleurocera verrucosa* Rafinesque, 1820, was the first nominal species to have been cited under the generic name *Pleurocera* Rafinesque 1818, all interested specialists at that time employed the generic name *Pleurocera* as though the type species was not the above species but was the species *Pleurocera acuta* Rafinesque, 1831. The evidence on this subject was, however, by this time sixteen years old and, as I realised, the situation might easily have changed during that period as the result of the acceptance by specialists of *Pleurocera verrucosa* Rafinesque as the type species of *Pleurocera* Rafinesque. I considered, therefore, that my first step must be to ascertain whether, since 1928 there had been any change in the practice of specialists in regard to the generic name *Pleurocera*.

11. Not myself possessing any first hand knowledge of the group concerned, I asked the late Mr. R. Winckworth (London) whether he had any information throwing light on the current use of the generic name *Pleurocera*. Mr. Winckworth very kindly made a search of the volumes of the *Zoological Record* for the purpose of ascertaining what changes, if any, had occurred in the practice of specialists in this group of fresh-water mollusks. The following is the Report, dated 16th September, 1944, furnished by Mr. Winckworth on the completion of his search of the literature :—

> As far as I can gather from references in the *Zoological Record* for 1931 and later years the name *Pleurocera* is still regularly used for the genus typified by *P. acuta*, e.g. by C. Goodrich, "Studies of Pleuroceridae", i-vi (1934–1937) (*Occ. Pap. Mus. Zool. Univ. Michigan*); by H. J. van Cleave, "*Studies on Pleurocera*" (*Nautilus* 46 : 29 (1932) and 47 : 48 (1933)); by E. M. Kindle in 1934 (*Bull. Wagner Free Inst.* 9 : 136); so that Hannibal's observations in 1912 seem to have had no effect.

12. This Report showed that there had been no change since 1928 in the way in which the generic name *Pleurocera* Rafinesque, 1818, was used by interested specialists. The question in 1944 remained therefore substantially the same as it had been in 1928, namely whether the strict application of the *Règles* (by the acceptance of *Pleurocera verrucosa* Rafinesque, 1820, as the type species of this genus) would lead to greater confusion than uniformity, the only difference, as compared with 1928, being that that the strict application of the *Règles* would overthrow the universal practice not of 50 years but of nearly 70 years. The conclusion which I then formed was that a *prima facie* case had been established for the use of the plenary powers by the designation of *Pleurocera acuta*, Rafinesque, 1831, as the type species of *Pleurocera* Rafinesque, 1818. In view, however, of the length of time which had elapsed since the consultations carried out by my predecessor, I felt that it was desirable to carry out further soundings before the case was submitted to the Commission by being published in the *Bulletin*, even though the prescribed "advertisement" procedure, when later carried out (see paragraph 16 below) would afford an opportunity to interested specialists to place their views before the Commission. Accordingly, in January, 1945, I wrote letters to Dr. Harold A. Rehder (Associate Curator, Division of Mollusks, United States National Museum, Washington, D.C.) and Professor H. J. van Cleave (Department of Zoology, University of Illinois, Urbana, Ill., U.S.A.), asking what would be their attitude towards a settlement of this case, under which, for the purpose of avoiding confusion and promoting uniformity, the plenary powers would be used for the purpose of designating *Pleurocera acuta* Rafinesque, 1831, as the type species of the genus *Pleurocera* Rafinesque, 1818. At the same time I wrote to Dr. Pilsbry, the original applicant in this case, putting the same question. The advice received as the result of these further consultations is set out in the following paragraphs.

13. *Advice received from Dr. H. A. Pilsbry* (*letter dated* 13*th February*, 1945). The following is the reply which on 5th March, 1945, I received from Dr. Pilsbry in answer to my letter of 24th January, 1945 :

> In the matter of a genotype for *Pleurocera* Rafinesque, I still believe that an *Opinion* confirming *P. acuta* Raf. as type of *Pleurocera* would be logical under the conditions existing. As the genus has many species in the eastern U.S. and Canada, such regularisation of current nomenclature would, I think, be accepted gratefully by our fresh-water zoologists.

14. *Advice received from Dr. Harald A. Rehder* (*memorandum forwarded under date 3rd March*, 1945) *:* On 26th March, 1945, I received a letter dated 3rd March, 1945, with which Dr. Harald A. Rehder enclosed the following memorandum setting out his views on the question raised in my letter of 24th January. In his covering letter Dr. Rehder stated that the views expressed in the enclosed memorandum represented the view of Dr. Paul Bartsch (see paragraph 5 of the present Report) and that of Dr. J. P. E. Morrison as well as that of himself :

> **1.** The genotype of *Pleurocera* Rafinesque, 1818, must be *Pleurocera verrucosa* Rafinesque by monotypy. The original generic diagnosis by Rafinesque (*Amer. Monthly Mag.* 3(5) 355, Sept. 1818) is sufficiently broad and general to cover both *P. verrucosa* Rafinesque and *acuta* Rafinesque. Walker's principal argument (*Occ. Papers Mus. Zool. Mus. Univ. Michigan*, No. 38, 1917) is therefore based on a faulty premise.
>
> **2.** The early European workers (Blainville, Rang, Menke, Deshayes, Sowerby, etc.) considered *Pleurocera* Rafinesque a genus of doubtful position, and the name *Ceriphasia* Swainson, 1840, came to be adopted for the group now usually called *Pleurocera.* It was so used by Gray, 1847, H. and A. Adams, 1854, and Chenu, 1859. In this country the elongated shells of this subfamily were all placed in *Melania* until Lea in the decades 1840–1860 began splitting off well-marked groups as genera. Gill in 1863 separated these American shells from the other Melaniids in a distinct subfamily, Ceriphasiinae, a group that Haldeman in the same year raised to family rank, calling it Strepomatidae (after the unpublished Rafinesquean genus *Strepoma*, which he considered to equal *Ceriphasia ; Pleurocera* he equated with *Goniobasis* Lea). Tryon in 1863 was the first to use *Pleurocera* Rafinesque for the *caniculata* Say group (the same as the *acuta* Rafinesque group), and he has been generally followed by all subsequent writers except Hannibal (*Proc. malac. Soc. Lond.* **10**, 169, 1912) and Pilsbry (*Nautilus*, 30, 110, 114, 1917), both of whom used *Pleurocera* correctly.
>
> **3.** It is my opinion that we should adhere to the rules in this case, and that *Pleurocera* should stand, with *verrucosa* Rafinesque as type :—
>
> (1) I am in favour of suspending the rules only in exceptional cases, where, for instance, the names concerned cover large or world-wide groups with a long nomenclatorial history, or where the groups in question play an important role outside of the purely taxonomic field, in medicine (parasitology) for instance, or economic geology (stratigraphy, oil geology, etc.).
>
> (2) The genera concerned here are relatively small and restricted. If we follow the rules, *Pleurocera* will replace *Angitrema* Haldeman, a group of about ten species inhabiting a small circumscribed area from southern Indiana and Illinois through Kentucky and Tennessee to the northern part of Alabama.
>
> (3) The whole subfamily is sadly in need of revision, and, when this is done, its classification will be considerably altered, and changes in the names of genera and their limits will have to be made anyway. One of the members of our staff is undertaking this problem now. There are several other valid names of Rafinesque, not now generally accepted, which will have to be used for certain groups in this subfamily.
>
> (4) We can, I believe, arrive at a greater stability in nomenclature by keeping exceptions to the rules at a minimum. Suspensions set a precedent and I am afraid that, if any leniency in this respect is shown, a flood of requests for suspension to the rules will ensue which, if accepted, will result in greater uncertainty and confusion than stability in nomenclature.
>
> We must remember that our personal preferences and habits as far as the use of certain names goes, should play little part in this question, for there are generations still to come who will not know these prejudices.

15. *Advice received from Professor H. J. van Cleave* (*letter dated* 15*th March* 1945) *:* The following is the reply which on 10th April, 1945, I received from Professor H. J. van Cleave in answer to my letter of 25th January, 1945 :—

> I have not had access to the original 1818 description of *Pleurocera* by Rafinesque. If *verrucosa*, the first described species to be assigned to the genus, fails to conform to the generic concept of *Pleurocera*, the designation of *verrucosa* as type of *Pleurocera* by Hannibal would necessitate the rejection of the original concept of the genus.

In the meantime, American authors, whether rightly or wrongly, have followed the practice of accepting the concept of *acuta* as exemplifying the genus *Pleurocera*. The concept of the genus and the association of the name *acuta* as type have become firmly fixed in the literature, in the textbooks, and in the minds of American zoologists.

I am certain that the formal acceptance of *verrucosa* as type of *Pleurocera* would result in widespread confusion. Therefore I favour the retention of the current practice of recognising *acuta* as type of the genus *Pleurocera*. Personally, I am not familiar enough with the original literature to be certain that *verrucosa* would nominally become the accepted type of *Pleurocera* under strict interpretation of the rules. However, I feel certain that the best interests of stability in nomenclature would be served if the Commission and the Congress were to accept *acuta* Rafinesque, 1831, as type of the genus *Pleurocera*, even though in so doing the Commission might find it necessary to exercise their plenary powers to suspend the rules.

16. On 20th November, 1947, an " advertisement " regarding a number of applications received by the Commission for the use of the plenary powers was despatched to *Science* and *Nature*, and was published shortly thereafter. Included in the foregoing " advertisement " was the following item : " Class Gastropoda : to fix *Pleurocera acuta* Rafinesque, 1831, as the type of *Pleurocera* Rafinesque, 1818." No objection to the use of the plenary powers in this manner was lodged with the Commission from any source.

II. The twofold issue involved

17. Two issues are involved in the present case : the first, factual, the second, a question of policy. The first of these issues is : what species is, under the *Règles*, the type species of the genus *Pleurocera* Rafinesque, 1818 ? The second question is whether, if the type species under the *Règles* is different from the species commonly accepted as such, the change in nomenclatorial practice which would follow upon the strict application of the *Règles* in this case would be calculated to cause such confusion that the Commission should step in to stabilise current nomenclatorial practice by using its plenary powers to designate as the type species of the genus *Pleurocera* a species in harmony with the accepted concept of this genus. These questions are discussed separately in the following paragraphs.

18. *Question of the type species of the genus* Pleurocera *Rafinesque*, 1818 : Prior to the meeting at Paris in 1948 of the Thirteenth International Congress of Zoology, there might have been scope for argument as to what species was, under the *Règles*, the type species of the genus *Pleurocera* Rafinesque, 1818, for up to that date the only guidance available for determining the type species of a genus established without any species being cited by name was that afforded by the Commission's *Opinion* 46, which, as anyone who has tried to apply that *Opinion* is aware, and as was recognised by the Commission itself at its Paris Session, is both obscure and in part self-contradictory. An entirely new situation was however, created by the decision taken by the Paris Congress, on the advice of the Commission, to clarify and amend the ruling given in the foregoing *Opinion*, to incorporate in the *Règles* the decision so clarified and amended, and at the same time to cancel *Opinion* 46. Under the decision so taken (1950, *Bull. zool. Nomencl.* **4** *:* 159-160, 346) it is provided that, where a generic name was published prior to 1st January, 1931, and no species was cited by name as referable to the genus so named, the first species subsequently published under that generic name is, or are, to be regarded as the sole originally included species and therefore that, if on that occasion only one such species was so cited, that species becomes automatically the type species of the genus by monotypy. Turning now to the generic name which forms the subject of the present Report, we find (1) that, when the name *Pleurocera* Rafinesque, 1818, was first published, no species was or were referred to it by name by its original author, and (2) that, when on the first subsequent occasion (1820) this generic name was first published in conjunction with a specific name, the author by whom it was so published (Rafinesque himself) cited only one species under this name, that species being a new species *Pleurocera verrucosa* Rafinesque, 1820. Under the *Règles*, that species is therefore unquestionably the type species of *Pleurocera* Rafinesque, 1818, by monotypy.

19. *Question whether greater confusion than uniformity would result from the acceptance, as the type species of* Pleurocera *Rafinesque*, 1818, *of* Pleurocera verrucosa *Rafinesque*, 1820 (*which is the type species under the* Règles) *in place of* Pleurocera acuta *Rafinesque*, 1831, *the species which has been commonly treated as the type species of this genus :* Having now established that under the *Règles* the type species of *Pleurocera* Rafinesque is a species (*Pleurocera verrucosa* Rafinesque, 1820) which is not considered by specialists to be congeneric with the species (*Pleurocera acuta* Rafinesque, 1831) which has commonly been treated as the type species of this genus, we have to consider a question of an entirely different order, namely whether the strict application of the *Règles* in this case would lead to greater confusion than uniformity. In this field all that it is possible to do is (1) to ascertain, so far as possible, what is the practice followed by workers who have published papers on the group concerned and to collect the views of present day workers, and (2) having done so, to reach the best decision possible in the light of the evidence so afforded.

20. On the question of what is the current practice in regard to this generic name and what are the views of interested specialists, the available evidence shows :—

(1) that it was not until 1912 (*i.e.*, until 94 years after the publication of the name *Pleurocera* Rafinesque, 1818) that it was suggested by Hannibal that under the *Règles* the type species of *Pleurocera* Rafinesque was *Pleurocera verrucosa* Rafinesque, 1820, and not *Pleurocera acuta* Rafinesque, 1831, which had been selected as the type species by Taylor in 1864, and had been accepted as such by subsequent workers ;

(2) that an inspection of the volumes of the *Zoological Record* for the years subsequent to the publication of Hannibal's paper (carried out for the Commission by the late Mr. R. Winckworth) shows that Hannibal's contention was either rejected or ignored by subsequent workers, who continued to treat *Pleurocera acuta* Rafinesque as the type species of the genus *Pleurocera* Rafinesque ;

(3) that two authors who are shown by the *Zoological Record* to have published papers on this group, namely, Dr. H. A. Pilsbry (Phila-

delphia, Pa., U.S.A.) and Professor H. J. van Cleave (Urbana, Ill., U.S.A.), were specially consulted on this question and both emphatically support the use by the Commission of its plenary powers to designate *Pleurocera acuta* Rafinesque, 1831, as the type species of *Pleurocera* Rafinesque, 1818 :—

(*a*) Dr. Pilsbry replying that : " such regularization would, I think, be accepted gratefully by our freshwater zoologists " ;

(*b*) Professor van Cleave replying : " I am certain that the formal acceptance of *verrucosa* would result in widespread confusion. Therefore, I favour the retention of the current practice of recognizing *acuta* as the type of the genus *Pleurocera*;"

(4) that Dr. Harald A. Rehder (Washington, D.C., U.S.A.), who was also consulted, replied that he favoured the strict application of the *Règles* in this case, partly on the ground that the genera concerned were relatively small and restricted but mainly on the ground that, in his opinion ; " We can arrive at a greater stability in nomenclature by keeping exceptions to the rules at a minimum." Dr. Rehder added that his views in this matter were shared by Dr. Paul Bartsch and Dr. J. P. E. Morrison;

(5) that, although the possible use of the plenary powers to designate *Pleurocera acuta* Rafinesque, 1831, as the type species of the genus *Pleurocera* Rafinesque, 1818, was notified to " Science " and " Nature " in November, 1947, and was published in those journals shortly thereafter, no objection of any kind to the use of the plenary powers in the manner proposed was subsequently received from any source.

II. Conclusions and recommendations

(*a*) *Conclusions*

21. In submitting the present Report to the International Commission on Zoological Nomenclature for its consideration, I summarize my principal conclusions as follows :—

(1) Under the *Règles* the type species by monotypy of the genus *Pleurocera* Rafinesque, 1818 (a genus established without any included species cited by name) is *Pleurocera verrucosa* Rafinesque, 1820 (the sole species cited under the generic name *Pleurocera* on the first occasion on which any nominal species was so cited).

(2) The generic name *Pleurocera* Rafinesque is currently used as though the type species of the genus so named were *Pleurocera acuta* Rafinesque, 1831, that species having in fact (though erroneously) been selected as the type species by Taylor in 1864.

(3) The species *Pleurocera verrucosa* Rafinesque, 1820, and *Pleurocera acuta* Rafinesque, 1831, are not currently regarded by specialists as congeneric with one another.

(4) In consequence of (3) above, the strict application of the *Règles* in the present case would lead to the transfer of the generic name *Pleurocera* Rafinesque (which forms the basis of a family name PLEUROCERIDAE or, more correctly, PLEUROCERATIDAE) from the genus which at present is known by that name to a genus to which that name has not hitherto been applied.

(5) Two specialists in the group concerned (Pilsbry ; van Cleave) consider that in order to prevent confusion, the species *Pleurocera acuta* Rafinesque, 1820, at present currently accepted as the type species of the genus *Pleurocera* Rafinesque, 1818 should be standardised as such ; one specialist (Rehder), who was specially consulted, is opposed to the use of the plenary powers in the present case, partly because the group is relatively small but mainly on the general ground that, in his view, stability in nomenclature will be best arrived at by keeping exceptions to the *Règles* as few as possible. The case has been duly advertised and no other specialist has lodged any objection to the use of the plenary powers for the purpose of designating *Pleurocera acuta* Rafinesque, 1820, as the type species of the genus *Pleurocera* Rafinesque, 1818.

(6) The position is thus that the use of the plenary powers in the present case is advocated by two specialists who have published on this group and who claim that this view is shared by other workers in the group concerned ; none has claimed that the *Règles* could be strictly applied in the present case without causing confusion in the group concerned ; three other malacologists are opposed to the use of the plenary powers in this case on grounds not directly connected with the question whether the immediate effect of applying the *Régles* strictly in the present case will or will not lead to greater confusion than uniformity in the nomenclature of the group concerned.

(7) In view of (5) and (6) above, it appears to me to be clear that some confusion would certainly arise if the *Règles* were to be strictly applied to the generic name *Pleurocera* Rafinesque, 1818. The question which has next to be considered is whether the degree of confusion so caused would be likely to be greater than the uniformity obtained by applying the *Règles* strictly in this case, and therefore whether this is a case in which it would be appropriate for the International Commission on Zoological Nomenclature to use its plenary powers to prevent that confusion from arising.

(8) In considering the question raised in (7) above, it is necessary to pay strict regard to the purposes for which in 1913 the International Congress of Zoology conferred plenary powers upon the Inter-

national Commission on Zoological Nomenclature and, in doing so, to note that one of the purposes expressly stipulated by the Congress was the avoidance of confusing transfers of names from one taxonomic unit to another. In the present case the strict application of the *Règles* would involve such a transfer, for the generic name *Pleurocera* Rafinesque, 1818, would need to be transferred from the genus to which it has for long been applied to a genus which has hitherto been known by some other name.

(9) Having regard to the evidence set forth in the present Report and summarised in (5) and (6) above, I have reached the following conclusions :—

(*a*) that, unless there has been any material change in the situation since this case was "advertised" in 1947, greater confusion than uniformity would arise from the strict application of the *Règles* to the generic name *Pleurocera* Rafinesque, 1818 ;

(*b*) that, in view of (*a*) above and having regard also to the fact that in the present case the strict application of the *Règles* would lead to a result (the transfer of a name from one taxonomic unit to another), the prevention of which was one of the express purposes for which the plenary powers were instituted, the proper course in the present case would be for the International Commission on Zoological Nomenclature to use its plenary powers for the purpose of designating as the type species of the genus *Pleurocera* Rafinesque, 1818, the species (*Pleurocera acuta* Rafinesque, 1831) currently accepted as such.

(*b*) *Recommendation*

22. In the light of the conclusions set forth above, I recommend that the International Commission Zoological Nomenclature should :

(1) use its plenary powers—

(*a*) to set aside all designations or selections of type species for the genus *Pleurocera* Rafinesque, 1818, made prior to the decision now proposed to be taken ;

(*b*) to designate *Pleurocera acuta* Rafinesque, 1831, to be the type species of the foregoing genus :

(2) place the generic name *Pleurocera* Rafinesque, 1818 (type species, by designation under the plenary powers under (1) (*b*) above : *Pleurocera acuta* Rafinesque, 1831) on the *Official List of Generic Names in Zoology* ;

(3) place the trivial name *acuta* Rafinesque, 1831 (as published in the binominal combination *Pleurocera acuta*) on the *Official List of Specific Trivial Names in Zoology*.

PROPOSED VALIDATION OF "APHIDIUS" NEES, 1818 (CLASS INSECTA, ORDER HYMENOPTERA) UNDER THE PLENARY POWERS

By W. D. HINCKS
(*Department of Zoology, University Museum, Manchester, England*)

(Commission's reference Z.N.(S.)149)

The well-known genus *Aphidius* Nees, 1818, was established in *Nova Acta Acad. Caes. Leop. Carol.* **9 :** 302, for two species, namely *Bracon picipes* Nees, 1811, *Mag. Ges. Nat. Fr.*, Berlin **5** (1) : 28, and *Bracon exoletus* Nees, 1811, *ibid.* **5** (1) : 30.

Ichneumon aphidum Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1 :** 568, was selected as the type species by Curtis, 1831 (*Brit. Ent.* **8 :** 383) but this selection is invalid since that species was not originally included in the genus by Nees. Foerster's selection (1862, *Verh. naturh. Ver. preuss. Rheinl.* **19 :** 248) of *Aphidius rosae* Haliday, 1833 (*Ent. Mag.* **1 :** 261) as the type species is untenable for the same reason.

Viereck, 1914 (*Bull. U.S. Nat. Mus.* **83 :** 14) stated that the type species of *Aphidius* Nees was *Bracon picipes* Nees, 1811, but as this is a *species inquirenda*, he preferred to follow Foerster's interpretation.

In 1942, Essig published a work under the title of "College Entomology" (New York, The Macmillan Company), in which he used (: 644) the family name INCUBIDAE for APHIDIIDAE and (: 645) sank *Aphidius* Nees as a synonym of *Incubus* Schrank, 1802.

Incubus Schrank, 1802, was established in *Fauna boica* **2 :** 315, for *Ichneumon aphidum* Linnuaes, 1758, *Syst. Nat.* (ed. 10) **1 :** 568, and is monotypical. This genus is identical with *Aphidius* Nees but the name *Incubus* Schrank has never previously been used. The replacement of *Aphidius* Nees by the obsolete name *Incubus* Schrank and the alteration of the family name from APHIDIIDAE to INCUBIDAE would clearly cause more confusion than uniformity. This seems to me therefore a case where the International Commission on Zoological Nomenclature could properly exercise their plenary powers to prevent confusion from arising in the nomenclature of this group.

The identity of neither of the two species originally included by Nees in the genus *Aphidius* Nees is altogether free from doubt, though personally I consider that *Bracon picipes* Nees can properly be identified with *Aphidius avenae* Haliday, 1834, *Ent. Mag.* **2** (1) : 99. This is the view taken by the former leading authority, Marshall (1896, *in* André, *Spec. Hymen. Eur.* **5** (1) : 574), though it is true that on that occasion Marshall overlooked the prior description (1811) of Nees, as will be noted from the following quotation : "Le synonyme *picipes* Nees, portant la même date que le nom spécifique imposé par Haliday, la priorité reste dans le doute ; j'ai donc préféré l'auteur de la meilleure description." The first author to introduce the doubt reflected by Viereck, as mentioned above, was the cataloguer Dalla Torre, 1898, *Cat. Hymenopt.* **4** : 5.

If the rules are to be suspended for the purpose of validating the name *Aphidius* Nees, 1818, it is very desirable that at the same time the International Commission should designate as the type species of this genus a species the identity of which is free from doubt, for, in the case of a group of species of considerable economic importance such as that now under consideration, it is important to secure that there shall be no opportunity for doubt by reason of the nomenclature employed. The most appropriate type species for the genus *Aphidius* Nees, 1818, appears to me to be *Aphidius avenae* Haliday, 1834, (*a*) because the type specimen of this species is in the British Museum (Natural History) and therefore readily available for consultation and (*b*) because that species (as already stated) is almost certainly identical with *Bracon picipes* Nees, 1811, the species which, under the Code, is the type species of the genus *Aphidius* Nees.

The difficulties in the present case would, therefore, be completely solved if the International Commission on Zoological Nomenclature, acting under their plenary powers, were to (i) suppress the name *Incubus* Schrank, 1802, (ii) validate *Aphidius* Nees, 1818, (iii) designate *Aphidius avenae* Haliday, 1834, as the type species of *Aphidius* Nees, 1818, (iv) place the name *Aphidius* Nees, 1818 (gender masculine), and with the above species as its type species, on the *Official List of Generic Names in Zoology*, (v) place the trivial name *avenae* Haliday, 1834 (as published in the binominal combination *Aphidius avenae*), on the *Official List of Specific Trivial Names in Zoology*, and (vi) place the generic name *Incubus* Schrank, 1802, on the *Official Index of Rejected and Invalid Generic Names in Zoology*.

ON THE PROPOSED VALIDATION OF "APHIDIUS" NEES, 1818 (CLASS INSECTA ORDER HYMENOPTERA) UNDER THE PLENARY POWERS

By E. O. ESSIG

(*Division of Entomology and Parasitology, University of California, Berkeley California*)

(Extract from a letter dated 20th October, 1943, from Professor Essig to the Secretary to the International Commission)

(Commission's reference Z.N.(S.)149)

I very greatly appreciate your kind letter of 22nd September, in which you indicate that application has been made for the suspension of the Rules for the purpose of suppressing the name *Incubus* Schrank and for validating *Aphidius* Nees.

I heartily recommend this procedure. I was very hesitant to make the radical changes which appear in "College Entomology," but I reasoned that only by so doing can these matters be permanently straightened out.

ON THE QUESTION OF THE AVAILABILITY OF THE GENERIC NAME "LEPTOPSYLLA" ROTHSCHILD & JORDAN, 1911 (CLASS INSECTA, ORDER SIPHONAPTERA)

By KARL JORDAN, Ph.D., F.R.S.
(*British Museum (Natural History), Zoological Museum, Tring*)

(Commission's reference Z.N.(S.)166)

I petition the International Commission to terminate a controversy regarding the correct generic name for the House-Mouse Flea. This species was first described as *Pulex segnis* by Schönherr in 1811, *K. Vet. Acad. Nya Handl.* **32** (2) : 98. As this flea is frequently referred to in the literature of Public Hygiene as *Ctenopsyllus segnis* and also as *Leptopsylla segnis*, it is a matter of practical importance that the International Commission should decide which of these generic names is the correct one for this species.

The name *Ctenopsyllus* appears for the first time in print in Kolenati, 1856, *Die Parasiten der Chiroptern* : 31. Kolenati's book was issued in identical form at Brünn in 1856 and at Dresden in 1857. The latter is the issue usually found and in consequence new names published by Kolenati in this work are commonly (but erroneously) dated "1857" instead of "1856". There is a copy of the scarce original Brünn issue in the library of the Zoological Museum, Tring. Kolenati there described several species of bat-flea, employing for them the generic name *Ceratopsyllus* Curtis, 1838, *Brit. Entom.* **15** (180) : *errata* in Index (an emendation of *Ceratophyllus* Curtis, 1831, *Guide brit. Ins.* (7) : 201).

In a footnote to the name *Ceratopsyllus* Curtis, Kolenati said (: 31) (translation) : "From κερας, κερατος horn and ψύλλος flea, should really be called *Ctenopsyllus* from κτεις, κτενος the comb, because the species bear combs, so-called ctenidia, at the posterior margin of the pro- and meta-notum and often also on some terga, by means of which they hold on, hairs of the host being caught in between when the combs are pressed on to the segments".

In 1863, *Hor. Soc. ent. ross.* **2** : 37, Kolenati gave to a "subgenus" of *Ctenophthalmus* Kolenati, 1857, *Paras. Chiroptern* : 33, the name *Ctenopsyllus*, ignoring altogether the fact that he had previously published this name in 1856. On this occasion, Kolenati described two species, the first as *Ctenopsyllus quadridentatus* (which is the same species as *Pulex segnis* Schönherr, 1811, referred to above), the second as *Ctenopsyllus bidentatus*, a distinct and at that time new species. The first of these species was selected as the type species of this genus by Baker in 1904 (*Proc. U.S. nat. Mus.* **27** : 371) (as *Pulex musculi*).

In 1911, *Novit. zool.* **18** : 85, Jordan and Rothschild published the name *Leptopsylla* nom. nov. for "*Ctenopsyllus* Kolenati, 1862 *nec* 1856" (the first of these years should have been cited as "1863" not "1862"). The type species of this genus by original designation is *Pulex musculi* Dugès, 1832 (*Ann. Sci. nat.* **27** : 163), which is the same species as *Pulex segnis*. This name *Leptopsylla* for the House-Mouse Flea and some similar species has been rejected by some specialists and accepted by others.

The question on which an *Opinion* from the Commission is now desired is whether the action by Jordan and Rothschild, 1911, was correct or wrong. In other words, was *Ctenopsyllus* published in 1856 as another name for *Ceratopsyllus* Curtis, 1838, and is it available from 1856 ?

The decision one way or the other will affect a number of similar cases, where authors have tentatively published names which they thought were " better " or otherwise more suitable names than names already published.

ON THE RELATIVE MERITS OF THE GENERIC NAMES " CTENOPSYLLUS " KOLENATI, 1863, AND " LEPTOPSYLLA " JORDAN AND ROTHSCHILD, 1911, AS THE GENERIC NAME OF THE HOUSE-MOUSE FLEA (CLASS INSECTA, ORDER SIPHONAPTERA)

By FRANCIS HEMMING, C.M.G., C.B.E.
(*Secretary to the International Commission on Zoological Nomenclature*)

(Commission's reference Z.N.(S.)166)

The point raised by Dr. Karl Jordan regarding the relative merits from the nomenclatorial point of view of the generic names *Ctenopsyllus* Kolenati and *Leptopsylla* Jordan and Rothschild turns on the question whether the manner in which the name *Ctenopsyllus* was published by Kolenati in 1856 was such as to confer availability upon it under the *Règles*. If the answer to this question is in the affirmative, the name *Ctenopsyllus* Kolenati, 1856, applies not to the House-Mouse Flea, but to a group of Bat Fleas. If, on the other hand, the answer to the foregoing question is in the negative, the name *Ctenopsyllus* ranks for purposes of priority as from Kolenati, 1863, and is applicable to the House-Mouse Flea. This question was reviewed in 1911 by Jordan and Rothschild, who came to the conclusion that, despite the unsatisfactory way in which the name *Ctenopsyllus* had been published by Kolenati in 1856, that name has nevertheless acquired rights under the Law of Priority in virtue of having been so published, and was accordingly applicable to the Bat Fleas. In the light of this conclusion, the name *Ctenopsyllus* Kolenati, 1863, as applied to the House-Mouse Flea became an invalid (because junior) homonym of the name *Ctenopsyllus* Kolenati, 1856. The House-Mouse Flea was thus left without an available generic name and it was to meet this deficiency that Jordan and Rothschild published the name *Leptopsylla*. The Commission are now asked to decide whether the argument advanced by Jordan and Rothschild was in accordance with the *Règles* or not and therefore whether the name *Ctenopsyllus* Kolenati, 1863, or the name *Leptopsylla* Jordan and Rothschild, 1911, is the generic name properly applicable to the House-Mouse Flea.

2. The question with which we are here confronted is the status to be accorded under the *Règles* to a name that was rejected by its author at the time when it was first published and was treated by that author as a synonym of some other name. One aspect of this case was dealt with by the Commission as long ago as 1907 when they rendered *Opinion* 4, in which they ruled that a manuscript name acquired availability under the *Règles* when it was published with an " indication ", irrespective of whether or not the author by whom it was published himself accepted the name as an available name or whether he sunk it as a synonym of some other (older) name. Another aspect of this case was dealt with by the Commission in 1912 when in *Opinion* 49 they ruled that the status of a name was not to be regarded as being adversely affected by reason of the name having been published conditionally. Both the foregoing interpretations of Article 25 were incorporated into the *Règles* by the Thirteenth International Congress of Zoology at its meeting held in Paris in 1948. (For the terms of the decision in relation to *Opinion* 4, see Proceedings of the Commission, Paris Session, 6th Meeting, Conclusion 4, and for that in relation to *Opinion* 49, *ibid.* 6th Meeting, Conclusion 17, published in 1950, *Bull. zool. Nomencl.* **4** : 144-146.)

3. The name *Ctenopsyllus* was admittedly published by Kolenati in 1856 as a conditional name, but, as we have seen, this does not deprive that name of any rights which it may otherwise possess under the Law of Priority. It is agreed also that, when Kolenati published this name in 1856, he himself rejected it and treated it as a synonym of an earlier name (*Ceratophyllus* Curtis, 1838) ; but, as we have seen, the rejection of a name by its original author at the time of its first publication does not deprive that name of its rights under the Law of Priority if as here (through its identification with *Ceratophyllus* Curtis) it is published with an indication. We see therefore that the name *Ctenopsyllus*, as published by Kolenati in 1856, cannot be rejected either on the ground that it was published conditionally or on the ground that it was rejected by its original author. It was in fact published as an emendation (on etymological grounds) of an earlier generic name ; its status from the present point of view is therefore the same as that of any other emendation. Now we know from the decision in *Opinion* 148, since clarified and incorporated into the *Règles* (Proceedings of the Commission, Paris Session, 6th Meeting, Conclusion 44, see 1950, *Bull zool. Nomencl.* **4** : 163) that " a generic name is to be rejected as a homonym, where the word of which that name consists has previously been published as an emendation, whether valid or invalid, of another generic name ". It is clear from the foregoing passage, which is a direct quotation from the Paris Proceedings, that the *Ctenopsyllus* as published by Kolenati in 1856 renders invalid, as a junior homonym, any later use of the word *Ctenopsyllus* as a generic name applied to some other group, for example, the later use of this name by Kolenati himself in 1863. (It is of interest to note that at Paris, 9th Meeting, Conclusion 20, the record of which was published in 1950, *Bull. zool. Nomencl.* **4** : 256, the Commission considered a case relating to a trivial name, which resembles very closely the case here under discussion, for that was a case where (as here) an author (Strand) published a name (*aegyptiellus*) which he in fact rejected (just as in 1856 Kolenati rejected the emendation *Ctenopsyllus* which he then published for the first time). In this case the Commission ruled that the trivial name *aegyptiellus* having been published by Strand with an indication was not damnified by reason of having been rejected by its original author at the time when it was first published, and, therefore, that this trivial name was available, as from the date on which it had been first published by Strand.)

4. For the reasons set forth above, it is clear that Jordan & Rothschild acted in strict accordance with the *Règles*, when, in 1911, they rejected *Ctenopsyllus* Kolenati, 1863, as an invalid homonym of *Ctenopsyllus* Kolenati, 1856, and therefore those authors were fully justified when they gave a new generic name (*Leptopsylla*) for the House-Mouse Flea.

5. In his application in relation to this case Dr. Jordan raised a point of importance, which requires to be considered, when he observed that the name to be given to the House-Mouse Flea was a matter of concern to workers in the field of Public Hygiene, some of whom had adopted the name *Leptopsylla*, while others had continued to use the name *Ctenopsyllus*. From this point of view, the present case resembles closely the case of the names *Bilharzia* and *Schistosoma* dealt with by the Commission in Paris (Paris Session, 12th Meeting, Conclusion 11, for the record of which see 1950, *Bull. zool. Nomencl.* **4** : 319–323). In that case the Commission was satisfied that the name *Bilharzia* had been validly published with an indication by Meckel von Hemsbach in 1856, and therefore had priority over the name *Schistosoma* Weinland, 1858, but decided that, in view of the view of the fact that in medical literature the name *Schistosoma* had come to be much more widely used than the name *Bilharzia*, the balance of advantage lay in suppressing the latter name under their plenary powers, and in validating the name *Schistosoma*. In these circumstances, it appeared to me desirable to obtain a preliminary expression of opinion from a leading Public Hygiene authority, in order to ascertain whether on public hygiene grounds there was any case for using the plenary powers in order to validate *Ctenopsyllus* Kolenati, 1863 (by suppressing the earlier name *Ctenopsyllus* Kolenati, 1856) in preference to applying the *Règles* in this case in the ordinary way.

6. At this point therefore, I consulted Sir John Charles, Principal Medical Officer of Health, Ministry of Health in the United Kingdom, who replied (on 17th August, 1950) that " though references to the house mouse flea in

Public Health literature are not numerous, there seems to be general agreement with the name of *Leptopsylla segnis*, and that so far as the literature of public hygiene is concerned, it would be preferred."

7. In these circumstances it appears to me that there is no case for the use of the plenary powers and that the appropriate course would be for the Commission, after noting that the name *Ctenopsyllus* Kolenati, 1863 (applied to the House Mouse Flea) is an invalid junior homonym of the name *Ctenopsyllus* Kolenati, 1856 (a name applied to a group of Bat Fleas), (1) to place the generic name *Leptopsylla* Rothschild & Jordan, 1911 (*Novit. Zool.* **18** : 85), (type species, by original designation : *Pulex musculi* Dugés, 1832 (*Ann. Sci. nat.* **27** (106) : 163) (=*Pulex segnis* Schünherr), 1811 (*K. Sv. Vetensk Acad., Nya Handl.* **32** (No. 2) : 98) on the *Official List of Generic Names in Zoology*, (2) to place the generic name *Ctenopsyllus* Kolenati, 1863 (*Hor. Soc. ent. ross.* **2** : 37) on the *Official Index of Rejected and Invalid Generic Names in Zoology*, and (3) to place the trivial name *segnis* Schönherr, 1811 (as published in the binominal combination *Pulex segnis*) on the *Official List of Specific Trivial Names in Zoology.*

PROPOSED USE OF THE PLENARY POWERS TO SUPPRESS THE TRIVIAL NAME "AJAX" LINNAEUS, 1758 (AS PUBLISHED IN THE BINOMINAL COMBINATION "PAPILIO AJAX") COMMONLY BUT INCORRECTLY APPLIED TO THE SPECIES NAMED "PAPILIO MARCELLUS" BY CRAMER IN 1777 (CLASS INSECTA, ORDER LEPIDOPTERA)

By the late A. STEVEN CORBET
(*British Museum (Natural History), London*)

(Commission's reference Z.N.(S.)192)

In Linnaeus' original diagnosis of *Papilio ajax* in 1758, *Systema Naturae* (ed. 10) **1** : 462, the very brief description (" P/apilio/ E/ques/ alis obtuse caudatis concoloribus fuscis : fasciis falvescentibus, angulo ani fulvo ") is followed by two citations and an indication of the habitat as follows :—

Raj. ins. 111. *n.* 2
Edw. av. 34
" Habitat in America boreali."

There is no mention of *P. xuthus* in the 10th edition and the description of *P. ajax* is followed by that of *P. machaon.*

There is no mention of *P. ajax* in 1764, *Mus. Lud. Ulr.* but in 1767, in the 12th edition (*Syst. Nat.* (ed. 12) **1** (2) : 750) the description of *P. ajax* is repeated precisely as in the 10th edition. On the following page in the 12th edition, appears the first description of *P. xanthus* (corrected to *xuthus* in the index), with " Habitat in India orientali " and " Simillimus P. Ajaci." The diagnosis of *P. xuthus* is more detailed than that of *P. ajax* and there are no references to works of other authors.

While there has been no doubt regarding the identity of *P. xuthus*, much confusion has been associated with the determination of *P. ajax* ; in fact, so involved had the position become that Rothschild and Jordan abandoned the name in their " Revision of the American Papilios " in 1906 (*Novit. zool.* **13** : 413–414). This confusion would not have arisen, had the Linnean collection been adequately studied, for therein is an undoubted Linnean specimen, low-set on a long, black, headless pin of the type which I called a " Cantonese pin " in an earlier paper (Corbet, 1942, *Proc. R. ent. Soc. Lond.* (B) **11**:91), and labelled " ajax " in Linnaeus' writing and " xuthus 751 " by Smith. The specimen in question is *P. xuthus* and the pin may be taken as evidence of its Cantonese origin ; almost certainly, it is one of the butterflies obtained by Peter Osbeck when he visited Canton in 1751.

In Linnaeus' own copy of the 10th edition of the *Syst. Nat.*, there is the following manuscript note added to the description of *P. ajax*.

> " Simillimus Machaon, sed magis flavis. Valde affinis Ajax, Machaon, Podalirius, Antilochus, Protesilaus."

P. ajax is among the species marked by Linnaeus as being in his collection in his own copy of the 12th edition, while *xuthus* is not so marked.

There is nothing in the description of *P. ajax* in either the 10th or 12th editions, which conflicts with what must clearly be regarded as the type specimen. It appears that Linnaeus described this same species again under the name *xanthus* (recte *xuthus*) from the same or another specimen, but this is not a unique occurence for both *P. aonis* and *P. lemonias* were described in the 10th edition from specimens of the dry-season form of the same species of *Precis* and, in the same volume, Linnaeus published names for three nominal " species ", based upon specimens of two species only (*Papilio perius* and *P. hylas*). Unfortunately, however, the Linnean collection was not available to the early authors and, even if it had been, no convincing conclusion could have been drawn without research into the manner of setting, pinning and labelling, in order to judge the authenticity of any supposed Linnean specimens. The early entomologists were obliged to identify *P. ajax* on the basis of the meagre description and the conflicting citations and in consequence mistakes were inevitable.

The Linnean description of *P. ajax* applies equally well to several species of *Papilio* (*sensu stricto*) of similar facies and the references to Edwards and Ray, do nothing to clarify the position. The reference to Edwards, 1743, *Natural History of Uncommon Birds* **1** : 34, t. 34 given in the 1758 description of *P. ajax* was cited under *P. protesilaus* by Linnaeus in 1764, *Mus. Lud. Ulr.*, and yet again referred to *P. ajax* in 1767 in the 12th edition of the *Syst. Nat.* According to Rothschild and Jordan (1906, *Novit. zool.*, **13** : 413), Edwards' figure cannot be reconciled with the Linnean description of *P. ajax* and, in fact, represents the American species well known as *Papilio marcellus* Cramer [1777]. The reference to Ray, 1710, *Historia Insectorum* : 111 (no. 2), depends on a reference by the latter author to a rather fantastic figure in Moufet, 1634, *Insectorum sive Minimorum Animalium Theatrum* : 98 which Rothschild and Jordan identified as the American species *P. glaucus* Linnaeus, 1758. The coloured figure labelled " ajax 26 " in Clerck, 1764, *Icones Insectorum rariorum* **2 :** t. 33. fig. 3 (a figure which was certainly seen by Linnaeus before publication) represents yet another American species, *P. polyxenes* Fabricius, 1775.

In view of this confusion of figures by Linnaeus, Rothschild and Jordan considered the wisest course was to discard the name *ajax* altogether ; on the other hand, Holland (1931, *The Butterfly Book*, Revised Edition : 321) continued to employ the name for the species *P. marcellus* Cramer, to which the name *ajax* had been applied since Linnaeus' day. In the interests of stability of zoological nomenclature, it is clearly undesirable to leave the matter as it stands. Either the name *ajax* should be employed for the species which would be so designated under the usual procedure based on the ***Règles Internationales*** or application should be made to the International Commission on Zoological Nomenclature for a suspension of the Rules in order to invalidate the name *ajax* on the grounds that a strict enforcement of the law of priority would result in greater confusion than uniformity.

In my opinion, there is no doubt that the name *Papilio ajax* Linnaeus, 1758, should be applied to the oriental species universally known as *Papilio xuthus* Linnaeus, 1767. In previous papers I have attempted the identification of the Linnean names of oriental Rhopalocera by taking as the type specimen of the respective nominal species :

(*a*) the specimen(s) in the Museum of Queen Ludovica Ulrica in the case of species where Linnaeus added the letters " M.L.U.," to his original description. (With a few species marked " M.L.U." in the descriptions, the specimens were missing from the Queen's collection but I found them in the Linnean collection.)

(*b*) the specimen(s) in the Linnean collection when these were identifiable as Linnean with reasonable certainty and where the original description contained no reference to " M.L.U."

(*c*) a figure cited by Linnaeus when the species was not in the Queen's or the Linnean collection. It appears that in only two instances among the oriental butterflies (*P. helena* and *P. eryx*) did Linnaeus rely entirely on figures.

It has been found that, if the above principles are followed, there is little or no trouble regarding the Linnean names of oriental Rhopalocera as these would continue to be employed in the sense used by the older authors. On the other hand, if preference were given to figures cited by Linnaeus over specimens in the Queen's museum and the Linnean collection, ambiguity and uncertainty must follow.

It has been pointed out in a previous paper (Corbet, 1942, *loc. cit* : 91) that, although Sir James Edward Smith added to the Linnean collection after he purchased it, there is no evidence of label-changing and in very few instances is there more than a single pin-hole in the original label. Everything points to the specimen of *P. xuthus* referred to above as having been labelled " ajax " by Linnaeus, and it has every claim to be regarded as the type specimen of *P. ajax* and as such I consider it.

Thus, if the International Rules are followed the species long-known as *P. xuthus* will in future have to be known as *P. ajax* Linnaeus and the former name will sink as a synomym. This would be deplorable, not so much because a well-known name would disappear, but because of the uncertainty which has surrounded the name *P. ajax* in the past.

The name *P. ajax* Linnaeus has been applied almost consistently although, incorrectly, to *P. marcellus* Cramer and a voluminous literature has grown up around this name, and I think it will be conceded that its suppression is in the best interests of entomology. It is accordingly hoped that the International Commission on Zoological Nomenclature will exercise the plenary power conferred upon them by the International Congress of Zoology, and promulgate an *Opinion* to the following effect :—

> The name *Papilio ajax* Linnaeus, 1758, is not to be employed for the species generally known as *Papilio xuthus* Linnaeus, 1767, although it has priority over this latter name, nor is it to be used for any other species.

ON THE PROPOSAL THAT THE TRIVIAL NAME "AJAX" LINNAEUS, 1758 (AS PUBLISHED IN THE BINOMINAL COMBINATION "PAPILIO AJAX") SHOULD BE SUPPRESSED BY THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE UNDER ITS PLENARY POWERS

By FRANCIS HEMMING, C.M.G., C.B.E.
(*Secretary to the International Commission on Zoological Nomenclature*)

(Commission's reference Z.N.(S.)192)

The late Dr. A. Steven Corbet, who at the time of his death was undoubtedly the foremost authority on the Linnean butterflies, has shown that the type specimen of the nominal species *Papilio ajax* Linnaeus, 1758, is still preserved in the Linnean collection in London and that, contrary to the universal belief of all previous workers (none of whom had studied the Linnean collection) the name *Papilio ajax* was not bestowed by Linnaeus upon a Nearctic species but upon the well-known Palaearctic and Oriental species to which Linnaeus himself in 1767 gave the name *Papilio xuthus*, by which it has ever since been known.

On making the foregoing disconcerting discovery, the late Dr. Corbet realised at once the appalling nature of the confusion which would ensue if, after having been applied for nearly two hundred years to Nearctic species, the trivial name *ajax* Linnaeus, 1758 (as published in the binominal combination *Papilio ajax*) were now to be applied to a very well-known species belonging to an entirely different zoo-geographical region, a species, moreover, which had been known by the trivial name (*xuthus* Linnaeus, 1767) currently applied to it ever since that name had been published nearly two hundred years ago. It was for this reason that in 1946 Dr. Corbet submitted to the International Commission on Zoological Nomenclature a request that it should use its plenary powers to prevent the confusion which would be quite inevitable if the *Règles* were to be strictly applied in the present case.

The question which has now to be considered is therefore how best the International Commission could use its plenary powers to secure the desired end. There are two possible courses of action, each of which possesses certain advantages :

(1) to suppress the trivial name *ajax* Linnaeus, 1758, altogether ;

(2) to secure that the foregoing trivial name shall in future apply not to the species (*Papilio xuthus* Linnaeus, 1767) to which, as Dr. Corbet has shown, it properly belongs under a strict application of the *Règles*, but to the Nearctic species to which it is now usually applied.

Course (1) would suffice to secure the principal object in view, namely, to prevent the confusion which would follow if the trivial name *ajax* Linnaeus, 1758, were to replace the trivial name *xuthus* Linnaeus, 1767, for the well-known species to which that name has always been applied. If this course were to be adopted, the Nearctic species to which the name *ajax* Linnaeus, 1758, is currently applied would need to be found a new name.

Course (2), like Course (1), would prevent the confusion which would result from the transfer of the trivial name *ajax* Linnaeus to the species now known as *Papilio xuthus*. In addition, Course (2) would preserve the trivial name *ajax* Linnaeus for the Nearctic species, to which it is commonly applied. Course (2) corresponds exactly to the action taken by the Commission in regard to the trivial name *iris* Linnaeus, 1758 (as published in the binominal combination *Papilio iris*) ; in that case also, Dr. Corbet had brought forward evidence to show that a trivial name (*iris*) invariably applied to a very well-known European species (" The Purple Emperor ") properly applied to an allied, and also very well-known European species (*Papilio ilia* [Schiffermüller and Denis], 1775). In that case, the Commission, in order to prevent the confusion which such a transfer of the trivial name *iris* would inevitably entail, used their plenary powers to direct that this trivial name was in future to apply to the common European " Purple Emperor," and selected a well-known and easily accessible figure of that butterfly to be the figure by which the nominal species *Papilio iris* Linnaeus, 1758 (= *Apatura iris* (Linnaeus, 1758)) was in future to be identified (see 1950, *Bull. zool. Nomencl.* **4** : 540–542). Under Course (2) similar action could be taken to preserve the trivial name *ajax* Linnaeus, 1758, for the North American Swallowtail commonly known by that name.

The question whether or not it is desirable that the trivial name *ajax* Linnaeus, 1758, should be preserved in the manner described above for the species to which that name is commonly used, is a matter of special interest to American lepidopterists, and is accordingly a question on which it would be valuable to the Commission to have the advice of such specialists. It is therefore particularly requested that any lepidopterist who is interested in this subject, should notify his views to the Commission as soon as possible.

PROPOSED USE OF THE PLENARY POWERS TO DESIGNATE "MYTILUS EDULIS" LINNAEUS, 1758, AS THE TYPE SPECIES OF THE GENUS "MYTILUS" LINNAEUS, 1758 (CLASS PELECYPODA, ORDER FILIBRANCHIATA) (PROPOSED VALIDATION OF AN ENTRY IN THE "OFFICIAL LIST" MADE IN *OPINION* 94

By HAROLD E. VOKES

(*Department of Geology, The Johns Hopkins University, Baltimore, Maryland, U.S.A.*)

(Commission's reference Z.N.(S.)193)

The generic name *Mytilus* was proposed by Linnaeus, 1758, with 17 species numbered 205 to 222 inclusive (Linnaeus, 1758, *Systema Naturae*, (ed. 10) **1** : 704–706) ; the species concerned in this request being *edulis*, No. 215, *cygneus*, No. 218, and *anatinus*, No. 219. No type species was designated nor indicated in this publication.

Lamarck (1799, " Prodrome d'une nouvelle classification des coquilles " : (*Mém. Soc. Hist. nat. Paris* **1799** : 88) cited *M. edulis* as an example, but this cannot be construed as fixing the type species.

Schumacher (1817, *Essai d'un nouveau système de habitations de Vers Testacés* : 107) cites " the figure of a hinge of " *Anodonta anatina* (*Mytilus anatinus* Linnaeus) as type species of the genus *Mytilus*. This selection transfers the generic name *Mytilus* to the fresh-water bivalve *Anodonta* Lamarck, 1799 (*supra cit.* L87, monotype *A. cygneus* (*Mytilus cygeus* Linnaeus)).

Children [April 1823, Lamarck's Genera of Shells : *Quart. J. Sci.* **1823** : 33] selected *Mytilus magellanicus* Lamarck as type of *Mytilus* " Lamarck ". This species was not on the Linnean list and was therefore not available for selection as the type species of *Mytilus* Linnaeus.

Anton (1839, *Verzeichniss der Conchylien* : 17) selected *Mytilus edulis* Linnaeus as the type species of *Mytilus*, and this is apparently the first selection of this species, which is today universally considered as the type species usually with a reference to Gray's citation of 1847. (Gray, J. E., 1847, " A list of the genera of recent mollusca their synonyma and types." *Proc. zool. Soc. Lond.* **15** : 198).

So far as I am aware, no subsequent author has followed Schumacher's selection of *Mytilus anatinus* as the type species of the genus *Mytilus* Linnaeus, and to do so now would result in complete confusion, requiring the substitution of the name *Mytilus* for the fresh-water *Anodonta*, and apparently the proposal of a new name for the group of species which now bear that name ; so far as I am aware, no other name has ever been proposed for the species of the *edulis* group.

Furthermore, both the generic name *Mytilus* Linnaeus, with type species *M. edulis* Linnaeus, and *Anodonta* Lamarck, with type species *A. cygneus* (Linnaeus), have been placed on the *Official List of Generic Names*, under *Opinion* 94. This procedure, however, was clearly the result of inadequate study, since, in the " Statement of Case " issued with this *Opinion*, it is said : " It appears from the reports reaching the Secretary's office that . . . [these] . . . names are valid under the International Rules and that, therefore, they do not have to be adopted as ' nomina conservanda ' under ' Suspension of the Rules '."

From the evidence cited above, the latter statement is clearly inaccurate, and the position of *Mytilus*, with type *Mytilus edulis*, is an equivocal one. It is, therefore, requested that the International Commission on Zoological Nomenclature, using the plenary powers granted it by the International Congress of Zoology at its meeting held at Monaco (1913), suspend the Rules in the International Code of Zoological Nomenclature, and declare *Mytilus edulis* Linnaeus to be the type species of *Mytilus* Linnaeus under such suspension of the Rules.

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The concluding Part (comprising Title Page and indexes) of Volume 1 is now in the press and will be published shortly.

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Secretary to the International Commission on Zoological Nomenclature

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NOTICES PRESCRIBED BY THE INTERNATIONAL CONGRESS OF ZOOLOGY

The following notices are given in pursuance of decisions taken, on the recommendation of the International Commission on Zoological Nomenclature (see 1950, *Bull. zool. Nomencl.* **4** **:** 51–56, 57–59), by the Thirteenth International Congress of Zoology, Paris, July 1948 (see 1950, *Bull. zool. Nomencl.* **5** **:** 5–13, 131).

(a) Date of commencement by the International Commission on Zoological Nomenclature of voting on applications published in the "Bulletin of Zoological Nomenclature"

NOTICE is hereby given that normally the International Commission will start to vote upon applications published in the *Bulletin of Zoological Nomenclature* on the expiry of a period of six calendar months from the date of publication in the *Bulletin* of the applications in question. Any specialist who may desire to comment upon any of the applications published in the present Part (Vol. 2, Part 2) of the *Bulletin*, is accordingly invited to do so in writing to the Secretary to the Commission as quickly as possible, and in any case in sufficient time to enable the communication in question to reach the Secretariat of the Commission before the expiry of the six-month period referred to above.

Notices prescribed by the International Congress of Zoology (*continued*)

(b) Notice of the possible use by the International Commission on Zoological Nomenclature of its plenary powers in certain cases

Notice is hereby given that the possible use by the International Commission on Zoological Nomenclature of its plenary powers is involved in applications published in the present Part of the *Bulletin of Zoological Nomenclature* (Volume 2, Part 2) in relation to the following names :—

(1) *Scaphander* Montfort, 1810 (Class Gastropoda, Order Tectibranchiata (Z.N.(S.)378).
(2) *Monoculus* Linnaeus, 1758 (Z.N.(S.)377).
(3) *Rantus* Dejean, 1833 (Class Insecta, Order Coleoptera) (Z.N.(S.)171).
(4) *Acantholyda* Costa, 1894 (Class Insecta, Order Hymenoptera) and *Acanthocnema* Becker, 1894 (Class Insecta, Order Diptera) (Z.N. (S.) 175).
(5) *Rhina* Latreille, [1802–1803], and *Magdalis* Germar, 1817 (Class Insecta, Order Coleoptera) (Z.N.(S.)202).
(6) *Cardinia* Agassiz, [1841] (Class Lamellibranchiata) (Z.N.(S.)208).

2. In accordance with the procedure agreed upon at the Session held by the International Commission on Zoological Nomenclature in Paris in 1948 (see 1950, *Bull. zool. Nomencl.* **4** : 56), corresponding Notices have been sent to the journals " Nature " and " Science."

FRANCIS HEMMING,
Secretary to the International Commission on Zoological Nomenclature.

Secretariat of the
International Commission on
Zoological Nomenclature,
28, Park Village East, Regent's Park,
London, N.W.1, England.

10*th April*, 1951.

PROPOSED USE OF THE PLENARY POWERS TO VALIDATE THE GENERIC NAME " SCAPHANDER " MONTFORT, 1810 (CLASS GASTROPODA, ORDER TECTIBRANCHIATA)

By HENNING LEMCHE
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(Commission's reference Z.N.(S.)378)

The object of the present application is to seek the assistance of the International Commission on Zoological Nomenclature in providing a valid basis for the well-known generic name *Scaphander* Montfort, 1810 (Class Gastropoda, Order Tectibranchiata). The facts relating to this case are set out in the following paragraphs.

Gioëni (G.) in 1783 (*Descr. nuov. fam. . . . di Testacei trovati nel littorale di Catania* : 25) described an " animal ", which proved to be the stomach of *Bulla lignaria* Linnaeus, 1758, (*Syst. Nat.* (ed. 10) **1** : 727). The specimen described was given the name " *Gioëni* " ; this, being uninominal, possesses no status in zoological nomenclature. A year later, however, Philipsson (not Retzius, as incorrectly stated by some authors) cited the record of " *Gioëni* " under the binominal name *Tricla gioëni* (1788, *Diss. Hist. nat. sist. nova Test. Gen.* : 8). Further, Bruguière in 1789 (*Ency. méth. Hist. nat.* Vers **1** : XII) referred to the reference to Gioëni's " *Gioëni* ", which he cited under the generic name *Gioënia ;* the sole species referred to by him—and therefore the type species by monotypy—he later cited under the name *Gioënia sicula* (1792, *ibid.* **2** : 502).

These " stomach-names " were not accepted by zoologists who have universally applied to the species in question the first generic name to be applied to the shell proper. This name is *Scaphander* Montfort, 1810 (*Conch. syst. Class. méth. Coquilles* **2** : 335) ; the type species of this genus is *Bulla lignaria* Linnaeus, 1758, by monotypy. Further information is to be found in a paper by the present writer (Lemche, 1948, *Danske Vid. Selsk. biol.* (5)**3** : 86–88), in which are enumerated all available records of this species from the North Atlantic ; in the same paper is given a list of all known synonyms of this species.

Winckworth (1932, *J. Conch.* **19** : 232 ; *id.*, 1933, *ibid.* **19** : 334) is the only author who has argued in favour of reverting to the name *Tricla* Philipsson, 1788, in preference to the later but universally accepted name *Scaphander* Montfort, 1810. Winckworth's action in re-instating the name *Tricla* has, so far as can be ascertained, been followed in only three subsequent papers, namely : (1) Fisher, 1935, *J. Conch.* **20** : 120 ; (2) Moore, 1937, *Proc. Liverpool biol. Soc.* **50** : 186 ; (3) Brouwer, 1945, *Basteria* **9** : 64.

The large animals with which we are here concerned are extremely well known to zoologists, and the name *Scaphander* is known widely outside the narrow circle of specialists engaged in the study of the tectibranchs. The abandonment of the name *Scaphander* which has been universally used for these animals for about 150 years (except in the few papers referred to above) would lead to quite unnecessary confusion and would be quite unwarranted. It is for this reason that I now ask the International Commission on Zoological Nomenclature :—

(1) to use its plenary powers to suppress the undermentioned names for the purposes of the Law of Priority but not for those of the Law of Homonymy :—

  (a) the generic name *Tricla* Philipsson, 1788 ;

  (b) the generic name *Gioënia* Bruguière, 1789 ;

  (c) the specific trivial name *gioëni* Philipsson, 1788 (as published in the binominal combination *Tricla gioëni*) ;

  (d) the specific trivial name *sicula* Bruguière, 1792 (as published in the binominal combination *Gioënia sicula*) ;

(2) to place the generic name *Scaphander* Montfort, 1810 (type species, by monotypy : *Bulla lignaria* Linnaeus, 1758) on the *Official List of Generic Names in Zoology ;*

(3) to place the trivial name *lignaria* Linnaeus, 1758 (as published in the binominal combination *Bulla lignaria*) in the *Official List of Specific Trivial Names in Zoology ;*

(4) to place the generic names specified in (1)(a) and (b) above, as proposed to be suppressed under the plenary powers, on the *Official Index of Rejected and Invalid Generic Names in Zoology ;*

(5) to place the trivial names specified in (1)(c) and (d) above, as proposed to be suppressed under the plenary powers, on the *Official Index of Rejected and Invalid Specific Trivial Names in Zoology.*

PROPOSED SUPPRESSION UNDER THE PLENARY POWERS OF THE GENERIC NAME "MONOCULUS" LINNAEUS, 1758

By H. MUNRO FOX, F.R.S.
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(Commission's reference Z.N.(S.)377)

The Linnean genus *Monoculus* (1758, *Syst. Nat.* (ed. 10) **1** : 634) has now vanished from zoological literature. Each of its nine species has been put into a different newer genus. The genera are the following (using the enumeration in the *Systema Naturae*) :—

Name of species	*Genus in which species now placed*
1. *Monoculus Polyphemus* ..	.. *Limulus* Müller, 1785
2. *M. foliaceus*	.. *Argulus* Müller, 1785
3. *M. Apus*	.. *Lepidurus* Leach, 1819
4. *M. Pulex*	.. *Daphnia* Müller, 1785
5. *M. Pediculus*	.. *Polyphemus* Müller, 1776
6. *M. quadricornis*	.. *Cyclops* Müller, 1776
7. *M. conchaceus*	.. *Cypris* Müller, 1776
8. *M. lenticularis*	.. *Limnadia* Brongniard, 1820
9. *M. Telemus*	.. *Cavolina* Abildgaard, 1791.

For the first seven species of *Monoculus*, Linnaeus gave references to publications, usually quoting figures, and from these figures and the description in the text we are certain to what animals the names apply. But species Nos. 8 and 9 cannot immediately be recognised from their descriptions and for each of them Linnaeus gave only a reference to one person. These were, for species No. 8, Uddman, a pupil of his, studying in Finland, and, for species No. 9, E. Brander, the Swedish consul at Algiers ; presumably they had sent him the specimens.

Species No. 8, *Monoculus lenticularis*, is difficult to recognise from its short description in 1758 in the *Systema Naturae*, but this description was improved in 1761 by the addition of the word " pellucida " in the Second Edition of the *Fauna Svecica* (: 499). Hermann (1804) thought that his *Daphnia gigas* might be *Monoculus lenticularis*. Brongniard (1820) named the same animal *Limnadia hermanni*. Lilljeborg (1871) was sure that these animals, since they occur in Sweden, were *Monoculus lenticularis*, because there is no other flat and pellucid species of this kind in that country. Sahlberg (1875) pointed out that, as it is also found in Finland, it must be the Linnean species. It is now called *Limnadia lenticularis* (Linnaeus).

Species No. 9, *Monoculus Telemus*, is a pteropod mollusc belonging to the genus *Cavolina* Abildgaard, 1791. Telemus was a soothsayer in Homer's " Odyssey ". The species is today called *Cavolina tridentata* (Forskål). Davila (1767, vol. 1, plate 20 figs. D and E) figured the shell. Forskäl (1775, *Descr. Anim.* : 124) described it as *Anomia tridentata*. Abildgaard (1791) named it *Cavolina natans*, because Cavolini of Naples had told him how this animal swims ; he referred to Davila. Hermann (1804) recognised that the species described by Davila, Forskål and Abildgaard corresponds to *Monoculus Telemus* Linnaeus. I have been able to confirm this from a handwritten entry by Linnaeus in his copy of the 12th Edition of the *Systema Naturae* (1767), now in the library of the Linnean Society of London, which refers to the plate and figures of Davila. Philippi (1853) renamed the genus *Cavolinia*, but there is no justification for this. No advantage of any kind would be served by the re-introduction of the trivial name *telemus* Linnaeus, 1758, for this species, in place of the well-known trivial name *tridentata* Forskål, 1775, by which it has been known continuously for nearly 150 years. I accordingly ask the International Commission on Zoological Nomenclature to use its plenary powers to suppress the trivial name *telemus* Linnaeus, 1758 (as published in the binominal combination *Monoculus telemus*) and, having done so, (i) to place that trivial name on the *Official Index of Rejected and Invalid Specific Trivial Names in Zoology*, and (ii) to place the trivial name *tridentata* Forskål, 1775 (as published in the binominal combination *Anomia tridentata*) on the *Official List of Specific Trivial Names in Zoology*.

While the nine species of *Monoculus* are now placed in nine other genera, the Linnean genus itself is still nomenclatorially available and every one of the generic names at present used for the nine species is liable to be superceded if one or other of those species were to be selected as the type species of *Monoculus* Linnaeus. This is highly undesirable, since the generic names in question have come to be very well known to zoologists. One of these names, *Limulus* Müller, has indeed already been placed on the *Official List of Generic Names in Zoology*. I accordingly apply herewith to the International Commission on Zoological Nomenclature to suppress the name *Monoculus* Linnaeus, 1758, under its plenary powers, on the grounds that reintroduction of this name would clearly lead to greater confusion than uniformity, and, having done so, to place this name on the *Official Index of Rejected and Invalid Generic Names in Zoology*.

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Müller, O. F. (1785). *Entomostraca, seu Insecta Testacea*, Leipzig and Copenhagen.

Philippi, R. A. (1853). *Handbuch der Conchyliologie und Malacozoologie*, Halle.

Sahlberg, J. R. (1875). " Om Finlands hilttills kända phyllopodet och återfinnandet af Linnés *Monoculus lenticularis*." *Faun. Flor. Fenn. Notiser*, Helsingfors.

PROPOSAL THAT THE GENERIC NAME "RANTUS" DEJEAN, 1833 (CLASS INSECTA, ORDER COLEOPTERA) SHOULD BE EMENDED TO "RHANTUS" UNDER ARTICLE 19 AND THAT THE TYPE SPECIES OF THIS GENUS SHOULD BE DETERMINED UNDER THE PROCEDURE LAID DOWN FOR DEALING WITH GENERA BASED UPON MISIDENTIFIED TYPE SPECIES

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(Commission's reference Z.N.(S.)171)

I originally submitted the present proposal to the International Commission on Zoological Nomenclature for the purpose of securing authority for the retention of the spelling *Rhantus* for the well-known coleopterous genus concerned, notwithstanding the fact that as originally published by Dejean in 1833, this name was spelt "Rantus." At the time when I submitted this application (April 1940), it was impossible for the Commission to take decisions on new cases, and I realised that considerable delay would be inevitable. Later, a second element entered into this case, when it was realised that under a strict interpretation of the expression "indication", as given in the Commission's *Opinion* 1, it would be necessary to review the literature for the purpose of determining the place where this generic name was first published. This particular difficulty disappeared in 1948 as the result of the decision of the Thirteenth International Congress of Zoology, to liberalise the provisions of Proviso (*a*) to Article 25, and to cancel the relevant portion of the *Opinion* referred to above (1950, *Bull. zool. Nomencl.* **4** : 78–80). Finally, it was found that, when the generic name *Rantus* was published at what is now seen to be the first occasion on which this name appeared in the literature, in conditions which satisfy the provisions of Article 25, the genus so named was based upon a misidentified type species. In order that this matter also may be placed on a satisfactory footing, it is necessary to ask the Commission to give a ruling regarding the type species of this genus under the clarified and amended rules for dealing with genera based upon misidentified type species, laid down by the International Congress of Zoology in 1948 (see 1950, *Bull. zool. Nomencl.* **4** : 158–159).

In the circumstances I have redrafted my application, in order both to take account of the decisions taken by the Paris Congress and to include within its scope, each of the three problems involved. I deal with these separately in turn, in the following paragraphs.

(1) Author and date of publication of the name "Rantus"

The generic name *Rantus* first appeared in print in 1833 in Dejean's *Cat. Coleopt* (ed. 2) : 54. It was there attributed to Eschscholtz, by whom presumably it had been originally suggested in manuscript. Dejean cited four species as belonging to this genus and for three of them citied what he regarded as synonyms. In all, he cited under this generic name eight trivial names previously validly published for nominal species. He did not give any verbal diagnosis for this genus, nor did he designate or indicate a type species. Nevertheless, under the liberalisation of the definition of the expression " indication " adopted by the Paris Congress, the name *Rantus* Dejean, 1833, satisfies the requirements of Proviso (*a*) to Article 25 of the *Règles* and accordingly possesses rights under the Law of Priority. It is not a homonym of any previously published generic name consisting of the same word, and it is therefore an available name. Further, it is the oldest available generic name for the group of species associated with the species, hitherto recognised as the type species of the genus concerned.

(2) Type species of the genus " Rantus " Dejean, 1833

The first author to select a type species for the genus *Rantus* Dejean was Hope, who in 1839 (*Col. Mon*, **2** : 131) selected what he called " *Dytiscus pulverosus* Knoch " as the type species of this genus, which however, he attributed to Eschscholtz, by whom (as shown above), this name was originally proposed in manuscript. Knoch never published the name *Dytiscus pulverosus* but there is no doubt that the species to which Hope was referring when he made the foregoing type selection was the species which in 1825, Stephens had named *Colymbetes pulverosus* (Stephens, 1825, *Cat* : 49 no. 489), for when dealing with the same species in 1828 (*Ill. Brit. Ent. Mand.* **2** : 69), Stephens added the following synonymy for this species : " *Dy. pulverosus* Knoch—*Co. pulverosus* Steph. Catal., p. 49, No. 489." This species, as I have shown (1939, *Ann. Mag. nat. Hist.* (11) **3** : 109. is the same as that to which MacLeay in 1825 (*Annul. javan.* (ed. 1) : 135) gave the name *Colymbetes suturalis*. On the basis of the foregoing identification, the oldest available trivial name for the species selected as the type species of *Rantus* by Hope in 1838 is *suturalis* MacLeay, 1825.

The generic name *Rantus* is universally interpreted in the sense indicated by Hope's type selection, but, before we can accept that as a valid type selection, it is necessary that we should satisfy ourselves that the species selected by Hope was in fact one of Dejean's originally included species. It is at this point that difficulties begin to arise. The trivial names cited by Dejean under the generic name *Rantus* are as follows :—

1. *notatus* Fabr.
   Synonyms : *conspersus* Gyll.
   pulverosus Knoch
2. *agilis* Fabr.
   Synonym : *suturalis* Harr. [recte *suturellus* Harr.]
3. *adspersus* Fabr.
   Synonym : *collaris* Gyll.
4. *suturalis* Dejean (a new name)
   Synonym : *notatus* Gyll.

It will be seen from the foregoing list that Dejean did include in his genus *Rantus*, a species having the trivial name *pulverosus*, attributed by him to Knoch (doubtless for the same reasons as those explained above in connection with Hope's 1839 type selection) and doubtless denoting the species named *Colymbetes pulverosus* by Stephens in 1825. This nominal species (as already explained) and also that referred to by Dejean as " *conspersus* Gyll." (= *Dytiscus conspersus* Gyllenhall, 1808, *Ins. suec.* **1** : 482 (*nec.* Marsham, 1802)), are currently regarded as identical with the species represented by *Colymbetes suturalis* MacLeay, 1825 ; but, contrary to the view expressed in Dejean's *Catalogue*, the species so named is considered to be quite distinct from the species cited by Dejean as *Rantus notatus* Fabr. Dejean was doubtless referring to *Dytiscus notatus* as published by Fabricius in 1781 (*Spec. Ins.* **1** : 296), where, however, Fabricius did not publish this as a new name, the name in question having already been published by Bergstrasser in 1778 (*Nomencl. Ins. Hanau* **1** : 31).

It is, however, not now accepted by specialists that the species referred to *Dytiscus* by Gyllenhal, 1808, under the trivial name *notatus*, is the same species as *Dytiscus notatus* Bergstrasser, 1778 ; on the other hand, it is accepted that the species so referred to by Gyllenhall is the same species as that referred to by Fabricius in 1781, as *Dytiscus notatus*. It is now considered by specialists that Fabricius misidentified the *Dytiscus notatus* of Bergstrasser (which is now considered to be the same species as *Dytiscus nebulosus* Forster, 1771, *Nov. Spec. Ins.* **1** : 56) and that Gyllenhal followed Fabricius in this misidentification. Accordingly, the species possessing the misapplied name *Dytiscus notatus* Fabricius, 1781 (*nec Dytiscus notatus* Bergstrasser, 1778), is now referred to as *Rantus frontalis* (Marsham, 1802) (= *Dytiscus frontalis* Marsham, 1802), the name *frontalis* Marsham being the earliest available name for the species (*vide* Balfour-Browne (J.), 1944, *Ann. Mag. nat. Hist.* (11) **11** : 354). Since Dejean listed as distinct species (1) *notatus* Gyllenhal (a preoccupied name which he proposed to replace by the name *suturalis* Dejean (not *suturalis* MacLeay, 1825) and (2) *notatus* Fabricius (with synonyms *conspersus* Gyllenhall and *pulverosus* Knoch), it is perfectly clear that he misconceived the Fabrician species and that the species which he identified as *notatus* Fabricius is not that species but *suturalis* MacLeay, 1825 (= *pulverosus* (Knoch MS.) Stephens, 1828).

Two conclusions emerge from the data summarised above : (a) that the species *Colymbetes pulverosus* (Knoch MS.) Stephens, 1825, selected as the type species of *Rantus* (Eschscholtz MS.) Dejean by Hope in 1839, is a species which, under the decision taken by the Thirteenth International Congress of Zoology in Paris in 1948 (1950, *Bull. zool. Nomencl.* **4** : 177–180), is to be treated as having been originally included in the genus, and therefore that Hope's selection of this species as the type species of the genus *Rantus*, being the first such selection to be made, is valid under the *Règles* ; (*b*) that Dejean, in identifying the above species with *Dytiscus notatus* Fabricius, 1781, committed an error of identification and therefore that, as the above species was later validly selected to be the type species of this genus (by Hope in 1839), the genus *Rantus* Dejean, 1833, is a genus based upon a misidentified type species.

The position of a genus established on a misidentified type species (which already had been the subject of *Opinions* 65 and 169) was reviewed by the Commission and the Congress in 1948, when it was agreed that, where the Commission was satisfied that such an error had been committed by the original author of a genus, it should use its plenary powers to designate as the type species of the genus concerned, the species intended by the original author of the genus (or, if the identity of that species was doubtful, some other species in harmony with current nomenclatorial usage) but that, where the Commission was of the opinion that greater confusion than uniformity would result from using the plenary powers in this way, it should direct that the designation or indication, or, as the case might be, selection as the type species of the genus concerned, of the species cited by the original author of the genus be accepted (1950, *Bull. zool. Nomencl.* **4** : 158–159). When we consider the present case in the light of the foregoing decision, it is immediately apparent that greater confusion than uniformity would result if the Commission were to use its plenary powers to designate as the type species of the genus *Rantus* Dejean the nominal species " *Rantus notatus* Fabr.," with which Dejean synonymised the nominal species *Colymbetess pulverosus* Stephens, 1825, for such a type designation would run entirely counter to the currently accepted treatment of this genus. It follows therefore that the present case is one which should be dealt with under the second part of the decision summarised above. I accordingly ask the Commission to direct that, notwithstanding the error of identification committed by Dejean at the time (1833) when he published the generic name *Rantus*, the nominal species *Colymbetes pulverosus* Stephens, 1828, included by him in this genus and (in 1839) selected by Hope, as the type species of this genus, is to be accepted as such.

(3) The question whether the name " Rantus " Dejean, 1833, should be emended to " Rhantus " under Article 19

The name *Rantus* was published by Dejean in 1833, without any indication of the origin of the word so selected. Thirteen years later Agassiz (1846, *Nomencl. zool. Index univ.* : 321) pointed out that the correct orthography of the Greek word ῥαντός, when transliterated into the Latin alphabet, was not " rantus " but " rhantus," and he accordingly emended the spelling of this generic name to *Rhantus*. This emended spelling has ever since been generally adopted ; in 1935 however, F. Balfour-Browne restored the original spelling (*Rantus*), arguing that no emendation of a generic name should be accepted " unless made by the original author and within the same volume of the publication in which the original spelling appeared." The question of the interpretation of Article 19 of the *Règles* was, I am aware, carefully considered by the Commission and the Congress in Paris in 1948, when certain clarifications were agreed upon and arrangements made for a comprehensive review of the problems involved in the emendation of names to be carried out by the Secretary to the Commission, in consultation with interested specialists, with a view to a thorough-going clarification of Article 19 at the next (Copenhagen, 1953) meeting of the Congress (1950, *Bull. zool. Nomencl.* **4** : 141–144). It is quite clear from the decisions taken in Paris that the grounds on which F. Balfour-Browne (1935) sought to justify the abandonment of the long established spelling *Rhantus*, in favour of the original spelling *Rantus*, are invalid, because not in accordance with the *Règles*. In view of the ambiguity of the wording of Article 19 (and, in particular, the absence of guidance as to how to interpret the governing word, " évident "), it is possible that for other reasons the emendation of the name *Rantus* to *Rhantus* is not justified under the provisions of this Article. In any case, there can clearly be no finality in this matter until the Commission has given a definite ruling one way or the other.

When I originally raised this question with the Commission (April, 1940) I did so because my correspondent Dr. Hugh B. Leach (Vernon, B.C.), had drawn my attention to the fact that in the then recently published Fourth Supplement to the Leng Catalogue of the Coleoptera of North America North of Mexico, Dr. R. E. Blackwelder (United States National Museum, Washington, D.C.), had used the accustomed spelling " *Rhantus*," notwithstanding the paper published in 1935 referred to above. At the same time, Dr. Leach sent me an extract from a letter which he had received from Dr. Blackwelder, which reads as follows : " *Rantus* and *Dytiscus* do come under Article 19, in my opinion, but each not as a *lapsus calami* but as an error of transcription. The reasons given by Balfour-Browne for not accepting the corrections seem to me to have no basis in the Rules, or in our attempts to get a stable nomenclature. And this in spite of the fact that I do not hesitate to back any change that seems necessary. There is nothing in the Rules that requires that corrections of original spellings must be made by the original author or within a set period of time, but the Appendix to the Rules does indicate tha the proper way to transliterate *Rantus* from the Greek is *Rhantus*." It was because I agreed with Dr. Blackwelder that the emended spelling (*Rhantus*) ought to be retained in this case, that I then asked the Commission to give a ruling in this sense. I am still of the opinion that nothing but unnecessary confusion and instability would result from the reversion from the spelling *Rhantus* to the original but defective spelling *Rantus*, and I accordingly ask the Commission to rule that under Article 19 the emended spelling *Rhantus* is to be accepted and therefore that this genus should be known as *Rhantus* (emend. of *Rantus*) Dejean, 1833.

Recommendation submitted to the International Commission on Zoological Nomenclature

In the light of the considerations advanced in the present application, I ask the International Commission on Zoological Nomenclature :—

(1) to give a ruling that the genus *Rantus* Dejean, 1833, is based upon a misidentified type species, since *Colymbetes pulverosus* Stephens, 1828, which was selected as its type species by Hope in 1839, is not, as erroneously stated by Dejean, the same species as that which he called *Rantus notatus* Fabr. (i.e., *notatus* Bergstrasser, 1778) ;

that greater confusion than uniformity would result if the species with which Dejean misidentified *Colymbetes pulverosus* Stephens, 1828, were now to be designated under the plenary powers as the type species of the genus *Rantus* Dejean ; and therefore that the species *Colymbetes pulverosus* Stephens, 1828, is to be accepted as the type species of this genus ;

(2) to declare that under Article 19 the spelling of the generic name published by Dejean in 1833 is to be emended from *Rantus* to *Rhantus ;*

(3) to place the generic name *Rhantus* (emend. of *Rantus*) Dejean, 1833 (type species, by selection by Hope, 1839 : *Colymbetes pulverosus* Stephens, 1828) on the *Official List of Generic Names in Zoology ;*

(4) to place the trivial name *suturalis* MacLeay, 1825 (as published in the binominal combination *Colymbetes suturalis*) on the *Official List of Specific Trivial Names in Zoology.*

PROPOSED VALIDATION UNDER THE PLENARY POWERS OF THE NAMES " ACANTHOLYDA " COSTA, 1894 (CLASS INSECTA, ORDER HYMENOPTERA) AND " ACANTHOCNEMA " BECKER, 1894 (CLASS INSECTA, ORDER DIPTERA)

By R. B. BENSON, M.A.
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(Commission's reference Z.N.(S.)175)

In 1859 A. Costa in O. Costa, *Fauna Regno Napoli*, Imen. 3, Lididei : 2, described a genus *Acanthocnema* without any included species. In 1894 in *Prosp. Im. Ital.* : 232, he emended the name to *Acantholyda*. There is no possible doubt that *Acantholyda* was meant to replace *Acanthocnema* because there is only one group in the family LYDIDAE (now known as PAMPHILIIDAE) in which the key character used, the presence of a pre-apical fore-tibial spine, is present. The name *Acantholyda* Costa, 1894, has been in general use in the Order Hymenoptera now for about 30 years, and the group to which it is attached contains a number of forestry pests in the Old and New Worlds and occurs frequently in economic literature.

The name *Acanthocnema* Costa, 1859, on the other hand, has been entirely overlooked in the Order Hymenoptera and has never been used since its inception. Furthermore, Becker, 1894, *Berlin. ent. Z.* **39** : 136, gave the name *Acanthocnema* to a valid genus of CORDYLURIDAE (Order Diptera) and the name is at present in use in that Order.

The strict application of the *Règles* in this case would clearly result in greater confusion than uniformity, since it would involve the transfer of the well-known name *Acanthocnema* from the Order Diptera to the Order Hymenoptera. The International Commission on Zoological Nomenclature are accordingly asked to use their plenary powers to suppress the name *Acanthocnema* Costa, 1859, and to validate the names *Acantholyda* Costa, 1894 (Order Hymenoptera) and *Acanthocnema* Becker, 1894 (Order Diptera). At the same time the International Commission are asked to place the above names, so validated, on the *Official List of Generic Names in Zoology*. The gender of the name *Acantholyda* Costa is feminine, as also is that of *Acanthocnema* Becker. The type species of the first of these genera is *Tenthredo erythrocephala* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 558, that species having been so selected by Rohwer in " The Genotypes of the Sawflies and Woodwasps, or the Super-Family Tenthredinoidea," published in 1911 (*Tech. Ser. U.S. Bur. Ent.* **20** : 73). The type species of *Acanthocnema* Becker, 1894, is *Cordylura nigrimana* Zetterstedt, 1846, *Dipt. Scand.* **5** : 2040, by original designation. The foregoing names are regarded as being the oldest available names for the species concerned and it is accordingly proposed that the trivial name *erythrocephala* Linnaeus, 1758 (as published in the binominal combination *Tenthredo erythrocephala*) and the trivial name *nigrimana* Zetterstedt, 1846 (as published in the binominal combination *Cordylura nigrimana*) should be placed on the *Official List of Specific Trivial Names in Zoology*. Finally, on the suppression of the name *Acanthocnema* Costa, 1859, that name should be placed on the *Official Index of Rejected and Invalid Generic Names in Zoology*.

PROPOSED USE OF THE PLENARY POWERS TO VALIDATE THE GENERIC NAMES "RHINA" LATREILLE, [1802-1803], AND "MAGDALIS" GERMAR, 1817, FOR USE RESPECTIVELY IN THE ACCUSTOMED SENSE (CLASS INSECTA, ORDER COLEOPTERA)

By J. CHESTER BRADLEY
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(Commission's reference Z.N.(S.)202)

In "An XI" of the French Revolutionary calendar (September 1802–September 1803), Latreille published the generic name *Rhina* (*Hist. Nat. Gen. part. Crust. Ins.* **3** : 198), (Class Insecta, Order Coleoptera). Latreille cited two species under this generic name, the second with a query. The species so cited were : "Curculio barbicornis F." and "Curculio cerasi ? F."

Since Latreille did not at that time designate or indicate a type species and his second species is excluded as a possible type species under Rule (e), (γ) in Article 30 of the Code, the type species of this genus is *barbicornis* Fabricius, by monotypy. But the name "barbicornis F." applied by Latreille to that species, was a *lapsus calami* for "barbirostris F.", as is proven by the following considerations.

Fabricius in 1775 (*Syst. Ent.* : 134) described one species under the name *Curculio barbicornis* and on the following page (: 135) a second species under the name *Curculio barbirostris*. Of *C. barbicornis* he says amongst other things : "Rostrum corpore longius . . . Antennae . . . filiformes, hirtae, articulis undecim cylindricis versus apicem rostri insertae . . .". But Latreille, when publishing the generic name *Rhina*, wrote of the species which he then mistakenly called "barbicornis F." : "Trompe de la longueur de la moitié du corps . . . le huitième article des antennes formant la massue ". Under the generic description Latreille wrote : "Antennes insérées vers le milieu des côtés de la trompe ".

	barbicornis F.	*barbicornis* Latreille
Rostrum	as long as body	one half as long as body
Antennae	filiform	with a club
:	of eleven segments	of eight segments
:	inserted towards the apex of the beak	inserted towards the middle of the beak

The nominal species *Curculio barbirostris* Fabricius is ordinarily identified with a very large common Neotropical weevil with which the description given by Fabricius agrees in all respects, including such conspicuously characteristic matters as the bearded beak (but this is sexual) and the tridentate anterior femora. The characters given by Latreille for "*barbicornis* F.", although not in all respects those mentioned by Fabricius for *C. barbirostris*, agree perfectly with the insect itself. including the statement made in the generic description in regard to the antennae : " le huitième ou neuvième article paroissant former à lui seul une massue tres-allongé, ellipsoide ".

The nominal species *Curculio barbicornis* Fabricius, 1775, is ordinarily identified with a large and common New Zealand species of BRENTIDAE now placed in the genus *Lasiorhynchus* Dejean.

It seems clearly apparent that Latreille, confused by the two similar Fabrician names appearing on facing pages of the same work, simply wrote " *barbicornis* F." when he meant " *barbirostris* F.".

In volume 2 of his *Histoire naturelle des Crustacés et des Insectes* (1804 : 101) Latreille wrote further of his genus *Rhina*. In volume 3 he had been giving a synopsis of the genera with brief mention of species. In volume 11 he treated each genus more fully. He now dwelt upon the essential characters of the genus *Rhina* and there again included two species, which I believe he meant to be the same two ; but he rectified his error in regard to the name of the first, which he now called *Rhina barbirostris*, citing as a synonym *Lixus barbirostris* F. (but making no mention of the fact that he himself had previously called it *barbicornis*). In the meanwhile he had evidently realised that his second species was not *cerasi* F. and rechristened it *Rhina barbicornis*. (Authors currently list both *barbicornis* Latreille and *cerasi* F. in the same genus but as distinct species.) But the species which Latreille now called *Rhina barbicornis* was a totally different *barbicornis* from *Curculio barbicornis* Fabricius ; in the light of current knowledge it is a well-known European species of the genus *Magdalis* Germar, 1817, which is now also adventive in North America, and a species of some economic importance.

Latreille in 1810 (*Consid. gén. Crust. Arach. Ins.* : 431) cited " *Lixus barbirostris* F." as the type species of *Rhina*, without mentioning other species.

Current usage (e.g., Csiki, *Coleopt. Catalogus* **149** : 87, published in 1936) employs the name *Rhina* as though *C. barbirostris* F. were the type species, although there has been some attempt to make it replace the *Magdalis*, the type genus of the sub-family MAGDALINAE, which it could only do if the second species (first called by Latreille " cerasi ? F." and later named by that author *barbicornis* as a new species) were the type species.

The method to be pursued in determining the type species of a nominal genus, which, as in the present case, was based upon a misidentified type species, has twice in the past been the subject of rulings by the Commission (in *Opinions* 65 and 168 respectively) and in 1948 was further clarified by the Thirteenth International Congress of Zoology, which agreed to the insertion in the *Règles* of an express provision on this subject. This new provision makes it clear that an author who publishes a name for a genus is " to be assumed to have identified correctly the nominal species referred by him to the genus so named and therefore that, where . . . the original author himself designates or indicates or the same or some other author later selects one of the originally included nominal species to be the type species of the genus, the designation, indication or, as the case may be, the selection so made, is not to be rejected on the ground that the original author misidentified some other nominal species with that nominal species, but that, where there are grounds for considering that such a species had been misidentified by the original author of the genus, the case is to be submitted to the International Commission on Zoological Nomenclature, which, if satisfied that the species in question had been so misidentified, is, under its plenary powers, to designate as the type species of the genus concerned, either (a) the species intended by the original author when citing the name of the erroneously determined species, or (b), if the identity of that species is doubtful, a species in harmony with current usage" (see 1950, *Bull. zool. Nomencl.* **4**: 158-159), except in cases where the Commission considers that greater confusion than uniformity would result from so doing. In the present case I have shown both that the species indicated by Latreille as the type species was a species which, as the result (as I believe) of a *lapsus calami*, was a misidentified species, and also that the species which Latreille intended to include in the genus *Rhina*, when he cited the name "*barbicornis* F." was the species *Curculio barbirostris* Fabricius, 1775. I have further shown that the genus *Rhina* Latreille is interpreted as though Latreille had in fact cited *C. barbirostris* Fabricius as an included species and that great confusion would result if, under a strict interpretation of the *Règles*, it were necessary now to accept *Curculio barbicornis* Fabricius, 1775, as the type species of this genus. I accordingly ask the International Commission to apply to this case the procedure agreed upon in Paris, by using their plenary powers to designate *Curculio barbirostris* Fabricius, 1775, as the type species of the genus *Rhina* Latreille [1802-1803].

Prior to the Paris Congress of 1948, the availability of the name *Rhina barbicornis* Latreille, 1804 (which, as I have explained, applies to a well-known species of the genus *Magdalis*) would have been a matter of doubt, for it might have been held that this name was invalid on account of secondary homonymy, owing to the prior (inadvertent) use by Latreille in 1802-1803 of the same binominal combination for the species, the true name of which is *Curculio barbirostris* Fabricius, 1775. Under the Paris decisions (1950, *Bull. zool. Nomencl.* **4** : 118-125) a name is not to be rejected on the ground of secondary homonymy if the two species concerned are no longer regarded as congeneric and if, during the period when they were regarded as belonging to the same genus, no author replaced the later published of the two names in question. Under this decision the new name *Rhina barbicornis* Latreille, 1804 (which belongs to the species now regarded as referable to the genus *Magdalis*) is not invalidated by the prior use by Latreille of the same binominal combination for *Curculio barbirostris* Fabricius, as it was never replaced on the ground that it was a secondary homonym by any author who considered the two species congeneric. In order, however, to underline the fact that the trivial name *barbicornis* Latreille, 1804 (as published in the binominal combination *Rhina barbicornis*) is an available name, it is desirable that this trivial name should now be placed on the *Official List of Specific Trivial Names in Zoology*.

Although, as explained, the generic name *Rhina* Latreille [1802-1803], is in general use, it has in the past been suggested that it was invalid, on the ground that it was a junior homonym of *Rhina* Schæffer, 1760, and of *Rhina* Wahlbaum, 1792 (in a reprint of Klein, 1744), both of which are names which have been applied to genera of fish. It was for this reason that Rafinesque in 1815 (*Analyse* : 165) replaced the name *Rhina* Latreille by the substitute name *Rinostomus*. Rafinesque was, however, mistaken in rejecting the name *Rhina* Latreille, which is not a homonym of any available name of older date and is perfectly valid. Of the two names, by which it was alleged that Latreille's name *Rhina* was preoccupied, the first, *Rhina* Schæffer, 1760, was examined by the late President David Starr Jordan (1917, *Genera of Fishes*) and rejected as having been published by a non-binominal author, while the second, *Rhina* Wahlbaum, 1792, is unavailable nomenclatorially under the decision in the Commission's *Opinion* 21 that Wahlbaum's reissue of Klein's pre-1758 work does not confer availability on the names published therein.

In view of the decision taken by the Commission in 1948 that in future *Opinions* should deal fully with all aspects of the problem under consideration (1950, *Bull. zool. Nomencl.* **4** : 355), coupled with the instruction given to the Commission by the Congress to foster the *Official List of Generic Names in Zoology* (1950, *Bull. zool. Nomencl.* **4** : 267-269), I recommend that, at the same time that the generic name *Rhina* Latreille is placed on the *Official List*, there should be added thereto also the name *Magdalis* Germar, 1817, owing to the connection of that generic name with the present case through the name *Rhina barbicornis* Latreille, 1804, the name of a species currently referred to Germar's genus. (It may be noted that, prior to the Paris Congress, this well-known name, *Magdalis*, would have been considered as having been first established by Samouelle in 1819, with the definitely designated type species *Curculio aterrimus* Fabricius, 1775, since Germar in 1817 published it without any definition or description, but with included nominal species, none of which was designated or indicated as the type species. Under the liberalisation of the expression " indication " in proviso (a) to Article 25 then agreed to (1950, *Bull. zool. Nomencl.* **4** : 78-80), the name *Magdalis* Germar, 1817, acquired availability as of that date.)

Type Species of *Magdalis* Germar, 1817

The name *Magdalis* was first used by Germar in 1817 (*Mag. Ent.* **2** : 140). No description was given and no indication except that three nominal species were included : " *Rhynch. Pruni, violaceus, aterrimus* ". No authors' names were mentioned and no bibliographical references given. " *Rhynch.*" is an abbreviation of the Fabrician generic name *Rhynchaenus*.

The following question arises : Since Germar, 1817, in giving the specific names *Rhynch. aterrimus*, etc., to the species that he included in his new genus *Magdalis*, failed to cite the authors of those names and gave no bibliographical clue to what species were meant, (a) did he fail to establish *Magdalis* or (b) can the species named be accepted as those, if any, that at the time of his writing bore or had borne those complete specific names (i.e., generic and specific name) ?*

If the answer to (a) were to be " yes ", then *Magdalis* was not established by Germar, 1817, nor by Samouelle, 1819, since neither gave the author's name nor any bibliographical reference to the trivial name or names. In that case the genus was established by Germar in *Neue Annalen Wetterauische Gesellsch. für die gesammte Naturkunde zu Hanau* **4** : 130. Germar here included :—

(1) *M. violacea* Fbr., Linn., Rossi, Pzr., Payk., Laich., DeGeer, Hrbst.

(2) *M. nassata* (descr. follows) " Ob sie vielleicht *Rhynch. carbonarius* Fabr. ist ? "

(3) *M. duplicata* (descr. follows) " Vielleicht *Curculio cerasi* L. und vielleicht auch *Curculio cerasi* Hrbst., Payk. (mas) ".

(4) *M. aterrima* Fbr., Hrbst., Oliv.

(5) *M. cerasi* Fbr., Clairv., Hrbst. (fem.).

(6) *M. Lymexylon* Fbr., Panz., Payk., Hrbst.

No type species was either designated or indicated.

The first type selection known to me was by Schoenherr in 1823 (*Isis* (Oken) **2** : 1136), who there proposed *Thamnophilus* as a substitute name for *Magdalis*, designated *Rhynch. violaceus* auct. as type species and therefore *ipso facto* made it also the type species of *Magdalis*.

If, on the other hand (as appears inevitable from reasons stated in the preceding footnote), the answer to (b) is " yes ", then it becomes necessary to ascertain whether any or all of three nominal species bearing the names " *Rhynch.*" (i.e., *Rhynchaenus*) " *Pruni*., *violaceus* and *aterrimus* " stood in the genus *Rhynchaenus* in the year 1817 or had earlier been placed in it. We need here only consider *aterrimus*. In *Syst. Eleuth.* (**2** : 486), Fabricius transferred *Curculio aterrimus* (see 1792, *Ent. Syst.* **1** : 439, No. 189) to *Rhynchaenus* This was the species which Germar meant by " *Rhynch. aterrimus* " in 1817, a fact which he himself corroborated in 1819 by giving a reference to Fabricius as the first authority cited after his " *Magdalis aterrima* ".

If, therefore, citation of " *Rhynch. aterrimus* " and others is accepted as adequate to validate the publication of the generic name *Magdalis*, and it is apparent that it must be, then Samouelle in 1819 validly selected the originally included species *R. aterrimus* as its type species.*

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* The answer to this question seems to be explicit in the action taken by the International Commission on Zoological Nomenclature at Paris in 1948 (*Bull. zool. Nomencl.* **4** : 80, concl. 13, par. 1). " A generic name published before 1st January, 1931, shall be available (under Art. 25) . . . when the name, on being first published, was accompanied by no verbal definition or description, the only indication given being that provided by the citation under the generic . . . name concerned of the names of one or more previously published nominal species." Since the *only* requirement is the *name* of the species, the name of the author is *not* required and equally no other bibliographic reference.

The identity of *Rhynchaenus aterrimus*

Schenkling in the *Coleopterorum Catalogus* and other authors attribute *Magdalis aterrima* to Fabricius. But Fabricius never had any intention of establishing a new species under that name, and no act of his could be construed as doing so. He first mentioned *aterrimus* as a species of *Curculio* in 1792 (*Ent. Syst.* **2** : 439, No. 189), but in doing so cited *Curculio aterrimus* Linnaeus, *Syst. naturae* and *Fauna suecica*. In 1801 (*Syst. Eleuth*, **2** : 486, No. 225) he transferred *Curculio aterrimus* Linnæus to his new genus *Rhynchaenus*, citing *Curculio aterrimus* by name, and giving a reference to his own *Ent. syst.* as well as both the Linnean references above mentioned.

Consequently, only one species has been established, namely, *Curculio aterrimus* Linnaeus, changed in 1801 to *Rhynchaenus aterrimus* (Linnaeus) (Fabricius) and in 1817 to *Magdalis aterrima* (Linnaeus) (Germar).

While I am not familiar with the taxonomy of these beetles, and have no basis for a subjective opinion as to what actual species Linnaeus meant by *Curculio aterrimus*, it is clear that coleopterists are in doubt. This is evident from the fact that Schenkling (*Catalogus Coleopterorum* **29** (pt. 141) : 12) refers under *Magdalis* to " *aterrima* Fabricius " (as a synonym of *armigera* Geoff., 1785), but gives no reference to *aterrimus* Linnaeus, and that Wagner (*loc. cit.* **28** (pt. 6) : 40) cites *Curculio aterrimus* Linnaeus as a synonym of *Apion marchicum* Herbst. He does not query the synonymy, but since *Curculio aterrimus* Linnaeus is the older name, he either was sufficiently in doubt about the identification to be unwilling to use it to replace *marchicum*, or else he simply disregarded priority in order to avoid overthrowing that name.

The general presumption in all such cases is that Fabricius correctly identified *Curculio aterrimus* Linnaeus when he transferred it to *Rhynchaenus*, and that therefore Germar really meant *Curculio aterrimus* in the sense of Linnaeus when he cited *Rhynch. aterrimus* as one of the three original species of *Magdalis*. Nevertheless, in view of the strong probability that they actually were misidentifying the Linnean species, it seems appropriate that the Commission, acting under their plenary powers, as directed at the Paris Session, should set aside the selection by Samouelle, 1819, of *Curculio aterrimus* Linnaeus as type species of *Magdalis*, and all other selections (if any) prior to 1823, and should validate the selection of *Curculio violaceus* Linnaeus, 1758, by Schoenherr in 1823 in *Isis von Oken* (**2** : 1136) as type species not only of *Thamnophilus*, which was there proposed as a substitute for *Magdalis* Germar, but also *ipso facto*, as type species of *Magdalis*.

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* Samouelle, George. The Entomologists' useful compendium, 1919, p. 204. " In . . . Germar's and Zincker Sommer's Magazin der Entomologie, v. 111 [*sic* !, should read 11] for 1817, notice is given of the following genera lately established (the species mentioned may be considered the types).

" Genus Magdalis Germar. Sp. 1. aterrimus."

(Then followed eight more genera, in one or two instances, two species being mentioned under each).

In the two cases where Samouelle named two species, he did not effect a type-selection. In the other cases he certainly did, under even the most rigorous construction.

It will be noted that *Curculio violaceus* Linnaeus is one of the three species originally included in *Magdalis*, that it was treated as type species of the subgenus *Magdalis* by Daniel in his revision of the subgenera, 1903, and is included in that subgenus by Schenkling in the *Catalogus Coleopterorum*, but that "*aterrima L.*" is placed by Daniel as a synonym of *armigera* Geoffroy and that *Curculio aterrima* Fabricius, treated as a synonym of *armigera*, is placed by Schenkling in another subgenus.* To select *Curculio violaceus* Linnaeus as type species would therefore be to select " a species in harmony with current usage," as the Commission is now directed to do (*Bull. zool Nomencl.* **4** : 158–159).

In the light of the considerations set out above, I ask the International Commission on Zoological Nomenclature to stabilize the generic names *Rhina* Latreille and *Magdalis* Germar each in its accustomed sense, by using for this purpose their plenary powers to such extent as may be necessary, and, having done so, to place these names on the *Official List of Generic Names in Zoology* and to take such other consequential action as may be necessary. The proposal which I accordingly submit is that the Commission should :

(1) use their plenary powers

  (a) to set aside all selections of type species for *Rhina* Latreille [1802–1803], and for *Magdalis* Germar, 1817, made prior to the date of the proposed decision ;

  (b) to designate *Curculio barbirostris* Fabricius, 1775, to be the type species of *Rhina* Latreille [1802–1803] ;

  (c) to designate *Curculio violaceus* Linnaeus, 1758, to be the type species of *Magdalis* Germar, 1817 ;

(2) place the under-mentioned generic names on the *Official List of Generic Names in Zoology*, with the type species specified below, together with a note that the gender of the generic names in question is that specified below :

  (a) *Rhina* Latreille, [1802–1803] (type species by designation under the plenary powers under (1) (b) above : *Curculio barbirostris* Fabricius, 1775) (gender of generic name : feminine*) ;

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* The subgeneric name " *Magdalinus* Germar " is incorrectly applied to this subgenus. *Magdalinus* was proposed by Germar (in Schoenherr, Gen. Spec. Curc. **7** (2), : 135, footnote) as a substitute for the preoccupied *Thamnophilus*, and therefore has *violacea* as type species. The subgenus in question probably has no valid name.

(b) *Magdalis* Germar, 1817 (type species by designation under the plenary powers under (1) (c) above: *Curculio violaceus* Linnaeus, 1758) (gender of generic name: feminine*);

(3) place the under-mentioned invalid or non-existent generic names on the *Official Index of Rejected and Invalid Generic Names in Zoology.*

(a) *Rhina* Schæffer, 1760;

(b) *Rhina* Wahlbaum, 1792;

(c) *Rhinostomus* Rafinesque, 1815;

(d) *Thamnophilus* Schoenherr, 1823†;

(e) *Magdalinus* Germar, 1843‡;

(4) place the under-mentioned specific trivial names on the *Official List of Specific Trivial Names in Zoology:*

(a) *barbicornis* Latreille, 1804 (as published in the binominal combination *Rhina barbicornis*) (a species now currently placed in *Magdalis* Germar).

(b) *barbicornis* Fabricius, 1775 (as published in the binominal combination *Curculio barbicornis*) (a species now currently placed in the brentid genus *Lasiorhynchus* Dejean);

(c) *barbirostris* Fabricius, 1775 (as published in the binominal combination *Curculio barbirostris*) (the type species of *Rhina* Latreille);

(d) *violacea* Linnaeus, 1758 (as published in the binominal combination *Curculio violaceus* (the type species of *Magdalis* Germar).

Postscript. Dated 16th October 1950. (1) The present application was originally submitted in November, 1945; it was "advertised" in November, 1947, as a case possibly involving the use by the Commission of its plenary powers. It was not however, brought before the Commission at its session held in Paris in July, 1948, for it was realized that fresh light had been thrown on some of the issues involved through decisions in regard to the meaning of the *Règles* then taken by the International Congress of Zoology.

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* See Annexe.

† *Thamnophilus* was proposed by Schoenherr (1823, Isis von Oken, **2**: col. 1136) as a substitute for *Magdalis* with the specified type species *Curc. violacea* L.

‡ *Magdalinus* was proposed by Germar (*in* Schoenherr, 1843, Gen. Spec. Curc. **7** (2): 135, footnote) as a substitute name for the pre-occupied *Thamnophilus*.

I have since re-examined this case in the light of the Paris decisions and have accordingly, revised the application to such extent as I have found to be necessary. The revision includes a request for plenary action involving *Magdalis* that was not previously suggested.

(2) I am informed by the Secretary to the Commission that no objection to the use of the plenary powers in the manner proposed in the case of the name *Rhina*, has been lodged, as the result of the " advertisement " of this case made over two years ago. I am confirmed, therefore, in the belief that the action recommended in regard to *Rhina* corresponds with the desires of interested specialists.

Annexe

Gender of *Rhina*

Pliny (32, 11, 53) used the word *rhina* in the feminine gender for a kind of shark. The word was taken over from the Greek feminine noun ‘ρίνη (a rasp or file, but also applied to a shark with a rough skin). The gender is therefore clearly feminine.

Gender of *Magdalis*

The gender is feminine, from three considerations :

(1) The name magdalis does not occur in that form in either Greek or Latin, except in Greek with the prefix ἀπο–

The Greek feminine noun μαγδαλιά is a later form of ἀπομαγδαλιά The variant ἀπομαγδαλς –ίδας was also used (see Eust. 1857, 17) as a feminine noun.

(2) Greek nouns in –is are universally feminine.

(3) Germar in 1919 was the first author to combine trivial names with *Magdalis*. In doing so he placed them all in the feminine gender.

PROPOSED ADDITION TO THE "OFFICIAL LIST OF GENERIC NAMES IN ZOOLOGY" OF THE NAMES OF THIRTEEN GENERA IN THE ORDER COLLEMBOLA (CLASS INSECTA)

By HERMANN GISIN
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(Commission's reference Z.N.(S.)207)

I submit to the International Commission on Zoological Nomenclature, the proposal that the under-mentioned thirteen names of genera in the Order Collembola (Class Insecta), should be placed on the *Official List of Generic Names in Zoology*. Each of these names is an available name and has, as its type species, the species specified below, that species having been duly so designated, indicated or selected under the *Règles*. The names now submitted are among the most important and most generally used in the Order Collembola. Each forms the basis, moreover, either of a family or subfamily name.

Names proposed to be added to the "Official List of Generic Names in Zoology".

Actaletes Giard, 1889, *Le Naturaliste* (2) **11** : 123 (type species, by monotypy : *Actaletes neptuni* Giard, 1889, *Le Naturaliste* (2) **11** : 123).

Bourletiella Banks, 1899, *J. N. Y. ent. Soc.* **7** : 194 (type species, by original designation : *Sminthurus hortensis* Fitch, 1863, *8th Ann. Rep. N, Y. agric. Soc.* : 668).

Cyphoderus (emend. of *Cyphodeirus*) Nicolet, 1842, *N. D. Allg. schweiz. Ges.* **6**(3) : 63 (type species, by selection by Börner, 1903 (*S. B. naturf. Fr. Berlin* **1903** : 180) : *Cyphoderus albinus* Nicolet, 1842, *N. D. Allg. schweiz. Ges.* **6**(3) : 67).

Isotoma Bourlet, 1839, *Mém. Soc. R. Sci. Lille* **1839**(1) : 399 (type species, by selection by Börner, 1903 (*S. B. Ges. naturf. Fr. Berlin* **1903** : 171) : *Isotoma viridis* Bourlet, 1839, *Mém. Soc. R. Sci. Lille* **1839**(1) : 401).

Isotomurus Börner, 1903, *S. B. Ges. naturf. Fr. Berlin* **1903** : 171 (type species, by original designation : *Podura palustris* Müller, 1776, *Zool. dan. Prodr.* : 184).

Lepidocyrtus Bourlet, 1839, *Mém. Soc. R. Sci. Lille* **1839**(1) : 391, 392 (type species by monotypy : *Lepidocyrtus curvicollis* Bourlet, 1839, *Mém. Soc. R. Sci. Lille* **1839**(1) : 392).

Neelus Folsom, 1896, *Psyche* **7** : 391 (type species, by monotypy : *Neelus murinus* Folsom, 1896, *Psyche* **7** : 391).

Onychiurus Gervais, 1841, *Echo Monde savant* **8** : 372 (type species, by original designation : *Podura ambulans* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 608).

Orchesella Templeton, 1835, *Trans. ent. Soc. Lond.* **1**(2) : 92 (type species, by selection by Börner, 1903 (*S. B. Ges. naturf. Fr. Berlin* **1903** : 180) : *Podura cincta* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 609).

Paronella Schött, 1893, *Bih. svensk. VetenskAkad. Handl.*, Stockholm **19**(4) (no. 4) : 18 (type species, by monotypy : *Paronella fusca* Schött, 1893, *Bih. svensk. VetenskAkad. Handl.*, Stockholm **19**(4) (No. 4) : 18).

Sminthurides Börner, 1900, *Zool. Anz.* **23** : 616 (type species, by selection by Börner, 1906 (*Mitt. naturh. Mus. Hamburg* **23** : 182) : *Sminthurus aquaticus* Bourlet, 1842, *Ann. Soc. ent. France* **10** : xli).

Sminthurus (emend. of *Smynthurus*) Latreille, 1802, *Hist. nat. Crust. Ins.* **3** : 72 (type species, by selection by Börner. 1906) *Mitt. naturh. Mus. Hamburg* **23** : 183) : *Podura viridis* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 608).

Tullbergia Lubbock, 1876, *Ann. Mag. nat. Hist.* (4) **18** : 324 (type species, by monotypy : *Tullbergia antarctica* Lubbock, 1876, *Ann. Mag. nat. Hist.* (4) **18** : 324).

I have to add, with reference to the decision by the Thirteenth International Congress of Zoology, that in future the gender of generic names added to the *Official List* is to be specified therein (1950, *Bull. zool. Nomencl.* **4** : 341), that the gender of the words constituting the generic names included in the present application is as follows :—

(a) *Masculine nouns* : *Actaletes* Giard, 1889 ; *Cyphoderus* Nicolet, 1842 ; *Isotomurus* Börner, 1903 ; *Lepidocyrtus* Bourlet, 1839 ; *Neelus* Folsom, 1896 ; *Onychiurus* Gervais, 1841 ; *Sminthurides* Börner, 1900 ; *Sminthurus* Latreille, 1802 ;

(b) *Feminine nouns* : *Bourletiella* Banks, 1899 ; *Isotoma* Bourlet, 1839 ; *Orchesella* Templeton, 1835 ; *Paronella* Schött, 1893 ; *Tullbergia* Lubbock, 1876.

In conformity with the decision, taken by the foregoing Congress, when establishing the *Official List of Specific Trivial Names in Zoology* (1950, *Bull. zool. Nomencl.* **4** : 269–271), the adoption of the present proposals relating to the addition of names to the *Official List of Generic Names in Zoology* will involve also the placing of the following specific trivial names on the *Official List of Specific Trivial Names in Zoology*, the names in question being the trivial names of the species which are respectively the type species of the thirteen genera, the names of which it is proposed should be placed on the *Official List* *of Generic Names in Zoology.* In every case the trivial name concerned is both itself an available name and also the name currently accepted by specialists as the oldest such name for the species concerned.

Trivial names proposed to be added to the " Official List of Specific Trivial Names in Zoology "

albinus Nicolet, 1842 (as published in the binominal combination *Cythoderus albinus*).

ambulans Linnaeus, 1758 (as published in the binominal combination *Podura ambulans*).

antarctica Lubbock, 1876 (as published in the binominal combination *Tullbergia antarctica*).

aquaticus Bourlet, 1842 (as published in the binominal combination *Sminthurus aquaticus*).

cincta Linnaeus, 1758 (as published in the binominal combination *Podura cincta*).

curvicollis Bourlet, 1839 (as published in the binominal combination *Lepidocyrtus curvicollis*).

fusca Schött, 1893 (as published in the binominal combination *Paronella fusca*).

hortensis Fitch, 1863 (as published in the binominal combination *Sminthurus hortensis*).

murinus Folsom, 1896 (as published in the binominal combination *Neelus murinus*).

neptuni Giard, 1889 as published in the binominal combination *Actaletes neptuni*).

palustris Müller, 1776 (as published in the binominal combination *Podura palustris*).

viridis Bourlet, 1839 (as published in the binominal combination *Isotoma viridis*).

viridis Linnaeus, 1758 (as published in the binominal combination *Podura viridis*).

PROPOSED USE OF THE PLENARY POWERS TO VALIDATE THE GENERIC NAME " CARDINIA " (CLASS LAMELLIBRANCHIATA) AS FROM AGASSIZ, [1841], FOR USE IN ITS ACCUSTOMED SENSE

By L. R. COX, Sc.D., F.R.S.
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(Commission's reference Z.N.(S.)208)

The purpose of the present application is to ask the International Commission on Zoological Nomenclature to use its plenary powers to validate, as from Agassiz [1841], the well-known generic name *Cardinia* in its accustomed sense, i.e., with *Unio listeri* Sowerby (J.), 1817 (*Min. Conch.* **2** : 123) as type species.

The earliest described representatives of this genus were mainly referred by J. Sowerby and other authors to the genus *Unio* Retzius, 1788 (*Diss. nova Test. Gen.* : 16). In 1833 a shell from the Lower Lias of the neighbourhood of Coburg was described by a Dr. Berger (*Neues Jahrb. Min.* **1833** : 69) under the name *Thalassides coburgensis* (gen. et sp. nov.). The description reads as follows : " Sie gehören zu den Dimyarien, und haben eine der Länge nach eiförmige Gestalt. Die äussere Fläche scheint glatt, nur etwa mit Zuwachs-Streifen versehen ? An einem Exemplar fand ich an der Stelle des Schlosses ein seichtes Grübchen, während die andern weder Grübchen noch Zahn besitzen. Beiderseits des Schlosses ist ein Seitenzahn. Das randliche Band liegt in einer Vertiefung des Schlossrandes. Die zusammenliegenden Klappen sind nicht klaffend." No figure was given by Berger.

Subsequent authors have recognized that the fossil so named and described was some representative of the genus now known as *Cardinia*, but its specific identity is doubtful and the trivial name *coburgensis* has nowhere been adopted.

The generic name *Cardinia*, now universally employed for the genus typified by *Unio listeri* Sowerby, was first published by Agassiz (I.) in 1838 (*Verh. schweiz. naturf. Ges.* **23** : 104). No species was cited and the genus was merely defined as including " ci-devant *Unio* des terrains secondaires." This cannot be regarded as sufficient to constitute an " indication " for the purposes of Article 25 of the *Règles*. Accordingly, the name *Cardinia* has no status in zoological nomenclature as from Agassiz, 1838.

The name *Cardinia* was next published by F. A. Roemer in 1839 (*Verstein. norddeutsch. Oolithengebirges*, Nachtr. : 38), where the following passage appears immediately after the description of an unfigured species to which was applied the name *Cardita obtecta*, attributed to Goldfuss : " Agassiz bildet aus dieser Art seine Gattung *Cardinia*, und nennt jene *Cardinia sulcata ;* wir haben indessen keine Kennzeichen zu finden vermocht, welche die Trennung der

Gattung verlangten." Goldfuss never described a species under the name *Cardita obtecta*, and this name should therefore be attributed to Roemer. Brauns considered that the species to which Roemer applied this name was identical with *Unio listeri* Sowerby ; he was, however, notoriously sweeping in his synonymies and his judgment in this matter cannot be accepted in the absence of supporting evidence from other sources. The name *Cardinia sulcata* referred to by Roemer as having been given by Agassiz was not published by that author until 1843 (*Études crit. Moll. foss.* (3) : 227). The species so named by Agassiz was (like *Cardita obtecta*) regarded by Brauns as identical with *Unio listeri* Sowerby ; Brauns accordingly treated the trivial name *sulcata* Agassiz as a junior synonym of *listeri* Sowerby. Although Roemer did not accept the genus *Cardinia* (erected, as he believed, by Agassiz), it could be argued that his use of the name *Cardinia* constituted the establishment of a nominal genus *Cardinia* Roemer with *Cardita obtecta* Roemer as type species, by monotypy. The genus *Cardinia*, so established, would be indeterminate, it being impossible definitely to establish the identity of its type species. The status of the nominal genus *Cardinia* (Agassiz MS.) of Roemer, 1839, is therefore just as unsatisfactory as that of *Thalassides* Berger.

The next occasion on which the name *Cardinia* appeared in print was in the German edition by Agassiz of Sowerby's *Mineral Conchology* (: 58). The exact dates on which the various parts of the German edition were published are not known, but the portion containing page 58 was considered by Sherborn (*Index Anim.* Pars secunda : cxviii) as having been published in 1840. That date is accepted here, though it is possible that the portion in question was not published until 1841. In this work it was suggested that the two Carboniferous species *Unio subconstrictus* Sowerby, 1813, and *Unio acutus* Sowerby, 1813, and the Cornbrash species *Unio uniformis* Sowerby, 1813, should be referred to this genus, " welche ich nach einer iasischen [? liasischen] Species desselben Typus aufgestellt habe." The distinctive characters of the hinge were described. The work referred to in the above passage (the *Études crit. Moll. foss.* (3)) in which the genus was founded on Liassic species was at that time still in manuscript. Of the three species cited under the name *Cardinia* in the passage referred to above, the first and second are now referred to the genus *Carbonicola* McCoy, 1855 (*in* Sedgwick & McCoy, *Synop. Class. brit. palaeozoic Rocks* **2** : 514), and the third to the genus *Pleuromya* Agassiz [1842-1844] (German ed. of Sowerby's *Min. Conch.* : 439). In consequence, the selection of any of these species as the type species of *Cardinia* Agassiz [1840], would be most undesirable and would certainly lead to confusion.

The name *Cardinia* was next published in 1841, again by Agassiz, on page 207 of the same translation of the *Mineral Conchology*. No descriptive remarks were given for the genus, but three species were cited as being referable to it, namely *Unio crassissima* Sowerby, 1817, *Unio listeri* Sowerby, 1817, and *Unio hybrida* Sowerby, 1817. Up to July, 1948, the name *Cardinia* as published by Agassiz in the foregoing manner would, apart from any other consideration, have been invalid, for, being published without a generic diagnosis and without either a designated or indicated type species, it would have been a name published without an " indication " within the meaning of that expression as used in Proviso (a) to Article 25 of the *Règles*. Under a decision taken by the Thirteenth International Congress of Zoology at its Paris meeting in July, 1948, the definition of the expression " indication " as applied to generic names published prior to 1st January, 1931, has been liberalised (see 1950, *Bull. zool. Nomencl.* **4** : 78-80) and in consequence a name such as *Cardinia* Agassiz [1841], now ranks as a name published with an " indication," and, if not invalidated in some other way, such a name is now an available name. Unfortunately, however, as we have seen, the name *Cardinia* Agassiz [1841], is invalid by reason of being a junior homonym of *Cardinia* Roemer, 1839. We may note, however, that if this difficulty were to be overcome by the suppression by the Commission of the name *Cardinia* Roemer, 1839, under its plenary powers, *Cardinia* Agassiz [1841], would become the oldest available generic name objectively available for the genus now universally known as *Cardinia*, provided that *Unio listeri* Sowerby (the second of the species cited by Agassiz) was the type species of this genus ; it would still be necessary, however, for the Commission to suppress under its plenary powers all generic names of earlier date that are subjectively identical with *Cardinia* Agassiz, [1841], as defined above, before the name *Cardinia* Agassiz could validly be applied to this genus.

As regards the type species of the genus *Cardinia*, it may be noted that in the year following the second publication of this name by Agassiz in the German edition of the *Mineral Conchology*, an anonymous reviewer, discussing the genus *Cardinia* wrote (1842, *Neues Jahrb. f. Min.* **1842** : 497) wrote " *Unio listeri* Dow. dient am besten als Typus." This observation was made, however, with reference not to Agassiz's use of the name *Cardinia* in the *Mineral Conchology*, but to the use of this name by Strickland (H. E.), when discussing Agassiz's then unpublished *Etudes critiques*, in the Report of the British Association for the year 1842. Under a ruling given by the Thirteenth International Congress of Zoology, Paris, 1948 (see 1950, *Bull. zool. Nomencl.* **4** : 348), such action does not constitute the selection of a type species for the nominal genus *Cardinia* Agassiz (that genus not having been under consideration at the time when the anonymous reviewer of Strickland's paper made the foregoing selection (even if the passage quoted above could be regarded as a selection under Rule (g), if " rigidly construed," as required by the *Règles*). Quite apart from the foregoing special considerations relating to the action of the anonymous reviewer of 1842, it cannot be supposed that Agassiz's use of the generic name *Cardinia* on page 207 of the German edition of the *Mineral Conchology* (in a sense not, in his eyes, materially different from the manner in which he had used this name on page 58 of the same work) constitutes the establishment of a new generic name ranking from the later of the two pages cited above. In order to secure such a status for *Cardinia*, as so used, it would be necessary for the Commission to use its plenary powers ; similarly, those powers would be needed to provide a type species for this genus.

From the particulars given above, it will be seen that the difficulties in the present case could be overcome, (1) if the generic names *Cardinia* Roemer, 1839, and *Cardinia* Agassiz [1840], were to be suppressed by the Commission under its plenary powers (thereby making the name *Cardinia* Agassiz [1841], objectively available), (2) if all generic names of older date that have as their type species species which are today subjectively regarded as being referable to the genus *Cardinia* (as universally understood) were to be suppressed under the same powers, and (3) if *Unio listeri* Sowerby were to be designated as the type species of *Cardinia* Agassiz [1841].

In addition to the generic name *Thalassides* Berger, 1833 (to which reference has already been made), there is another generic name which is subjectively identical with *Cardinia* Agassiz [1841], and may have priority over that name. This is the name *Sinemuria* de Christol, 1841 (*Bull. Soc. géol. France* (1) **12** : 92), which was applied by its original author to a species which is now considered to belong to the genus *Cardinia.* The difficulty which arises in this case is that, whereas it is known that the name *Sinemuria* de Christol was published in 1841 just before 26th May (the date of the recorded receipt by the Geological Society of London of the part of the *Bull. Soc. géol. France* in which this name appeared), no evidence has yet been found as to the exact date of publication of page 207 of Agassiz's German edition of the *Mineral Conchology*, although it is believed to have been in the same year. Thus, *Sinemuria* may have been published before the foregoing publication of the name *Cardinia.* In any case, the latter can at present rank for priority only as from 31st December, 1841 (see 1950, *Bull. zool. Nomencl.* **4** : 223-225). Accordingly, as matters now stand, the name *Sinemuria* de Christol, May, 1841, has priority over *Cardinia* Agassiz [1841] (ranking as from 31st December of that year). It is essential therefore that, as part of the general settlement of the problem raised by the name *Cardinia*, the name *Sinemuria* de Christol should be suppressed, since otherwise it would take precedence over the name *Cardinia.*

In addition, there are several names which, on the validation of the name *Cardinia* Agassiz [1841], it would be desirable should be finally disposed of, by being placed on the *Official Index of Rejected and Invalid Generic Names in Zoology.* Three of these names are objective synonyms of *Cardinia* Agassiz [1841] ; one is a *nomen nudum ;* two are invalid junior homonyms of older names. The six names in question are : (1) *Ginorga* Gray, 1840 (*Syn. Contents Brit. Mus.* (ed. 42) : 150) (a *nomen nudum*) ; (2) *Ginorga* (Gray, *nom. nud.*) Strickland, 1842 (*Rep. Brit. Ass.* (*Plymouth*, 1841) *Trans. Sect.* : 65) (cited as a synonym of *Cardinia*) ; (3) *Dihora* (" Gray ") [Anon.], 1842 (*Neues Jahrb. Min.* **1842** : 496) (cited as a synonym of *Cardinia*) ; (4) *Pachyodon* Stutchbury, 1842 (*Ann. Mag. nat. Hist.* **8** : 481) (a homonym of *Pachyodon* Meyer, 1838, *Jahrb. f. Min.* **1838** : 414) ; (5) *Thalassites* Quenstedt, 1843 (*Floezgeb. Wuertemb.* **1843** : 143) (an emendation of *Thalassides* Berger, 1833) (a homonym of *Thalassites* Swainson, 1837, *Nat. Hist. Classif. Birds* **2** : 372) ; (6) *Storthodon* (" Brown ") Zittel, 1881 (*Palaeozool.* **2** : 62) (name attributed to Brown without a bibliographical reference and cited as a synonym of *Cardinia*).

After careful consideration, I have come to the conclusion that, in order to prevent the most serious confusion, accompanied by a far-reaching disturbance in the nomenclature of this group, it is essential that the International Commission on Zoological Nomenclature should use its plenary powers to such extent as is necessary to validate the generic name *Cardinia* Agassiz [1841] (as published on page 207 of the German edition of Sowerby's *Mineral Conchology*) with *Unio listeri* Sowerby, 1817, as type species. The proposal which I accordingly submit is that the International Commission should :—

(1) use its plenary powers :—

  (a) to suppress the under-mentioned names for the purposes both of the Law of Priority and of the Law of Homonymy :—

    (i) *Cardinia* Roemer, 1839 ;

    (ii) *Cardinia* Agassiz [1840] ;

  (b) to suppress the under-mentioned generic names for the purposes of the Law of Priority, but not for those of the Law of Homonymy :—

    (i) *Thalassides* Berger, 1833 ;

    (ii) *Sinemuria* de Christol, 1841 ;

  (c) to validate the generic name *Cardinia* Agassiz [1841] (as published on page 207 of the German edition of Sowerby's *Mineral Conchology*), with *Unio listeri* Sowerby, 1817, as type species ;

  (d) to suppress for the purposes of the Law of Priority, but not for those of the Law of Homonymy the trivial name *coburgensis* Berger, 1833 (as published in the binominal combination *Thalassides coburgensis*) ;

(2) place the generic name *Cardinia* Agassiz [1841], as proposed under (1) (c) above to be validated under the plenary powers (type species, by designation under the plenary powers under (1) (c) above : *Unio listeri* Sowerby, 1817) on the *Official List of Generic Names in Zoology ;*

(3) place on the *Official Index of Rejected and Invalid Generic Names in Zoology* the under-mentioned rejected or invalid names :—

  (a) the two names specified in (1) (a) above, proposed to be suppressed for all purposes under the plenary powers ;

  (b) the two names specified in (1) (b) proposed to be suppressed for the purposes of the Law of Priority, but not for those of the Law of Homonymy, under the plenary powers ;

  (c) the name *Cardinia* Agassiz, 1838 (an invalid name, because not published with an indication) ;

  (d) the name *Ginorga* Gray, 1840 (a *nomen nudum*) ;

  (e) the under-mentioned objective synonyms of *Cardinia* Agassiz, 1841 (as proposed under (1) (c) to be validated under the plenary powers) :—

    (i) *Ginorga* Strickland, 1842 ;

        (ii) *Dihora* [Anon.], 1842 ;
        (iii) *Storthodon* Zittel, 1881 ;

    (f) the under-mentioned invalid homonyms :—
        (i) *Pachyodon* Stutchbury, 1842 ;
        (ii) *Thalassites* Quenstedt, 1843 ;

(4) place the specific trivial name *listeri* Sowerby, 1817 (as published in the binominal combination *Unio listeri*) on the *Official List of Specific Trivial Names in Zoology ;*

(5) place the specific trivial name *coburgensis* Berger, 1833 (as published in the binominal combination *Thalassides coburgensis*) (as proposed under (1) (d) above to be suppressed under the plenary powers for the purposes both of the Law of Priority and of the Law of Homonymy) on the *Official Index of Rejected and Invalid Specific Trivial Names in Zoology.*

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Notice to Subscribers

The concluding Part (Part 12) of Volume 1 of the *Bulletin of Zoological Nomenclature* (containing the Title Page, indexes, etc., for that volume) is now in the press and will be published shortly.

Form of Applications to the International Commission on Zoological Nomenclature

Zoologists proposing to submit applications to the International Commission on Zoological Nomenclature are requested to submit those applications, in duplicate and typed, double-spaced, on one side of the page only, and with wide margins. Owing to the lack of staff available for copying applications not submitted in the foregoing form, preference for publication in the *Bulletin of Zoological Nomenclature* will necessarily be given to applications submitted in the form requested.

Full particulars of the bibliographical and other data required to be included in applications submitted to the International Commission will be found in the " Instructions to Authors " given on page 88 of Volume 1 of the present journal.

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The publications issued by the International Trust for Zoological Nomenclature on behalf of the International Commission on Zoological Nomenclature are on sale at the Offices of the International Trust for Zoological Nomenclature, 41, Queen's Gate, London, S.W.7. All communications on this subject should be addressed to the Publications Officer.

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PURCHASED
21 APR 1951

Edited by

FRANCIS HEMMING, C.M.G., C.B.E.

Secretary to the International Commission on Zoological Nomenclature

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BULLETIN OF ZOOLOGICAL NOMENCLATURE

Volume 2, Part 3 (pp. 65-96) 20th April, 1951

NOTICES PRESCRIBED BY THE INTERNATIONAL CONGRESS OF ZOOLOGY

The following notices are given in pursuance of decisions taken, on the recommendation of the International Commission on Zoological Nomenclature (see 1950, *Bull. zool. Nomencl.* **4** : 51-56, 57-59), by the Thirteenth International Congress of Zoology, Paris, July 1948 (see 1950, *Bull. zool. Nomencl.* **5** : 5-13, 131).

(a) Date of commencement by the International Commission on Zoological Nomenclature of voting on applications published in the "Bulletin of Zoological Nomenclature"

NOTICE is hereby given that normally the International Commission will start to vote upon applications published in the *Bulletin of Zoological Nomenclature* on the expiry of a period of six calendar months from the date of publication in the *Bulletin* of the applications in question. Any specialist who may desire to comment upon any of the applications published in the present Part (vol. 2, Part 3) of the *Bulletin* is accordingly invited to do so, in writing, to the Secretary to the Commission as quickly as possible and in any case in sufficient time to enable the communication in question to reach the Secretariat of the Commission before the expiry of the six-month period referred to above.

Notices prescribed by the International Congress of Zoology (*continued*)

(b) Notice of the possible use by the International Commission on Zoological Nomenclature of its plenary powers in certain cases

NOTICE is hereby given that the possible use by the International Commission on Zoological Nomenclature of its plenary powers is involved in applications published in the present Part of the *Bulletin of Zoological Nomenclature* (Volume 2, Part 3) in relation to the following names :—

(1) the trivial name *sirtalis* Linnaeus, 1758 (as published in the binominal combination *Coluber sirtalis*) (Class Reptilia, Order Ophidia) (Z.N.(S.) 433);

(2) *Crangon* Weber, 1795, *Crangon* Fabricius, 1798, *Alpheus* Weber, 1795, and *Alpheus* Fabricius, 1798 (Class Crustacea, Order Decapoda) (Z.N.(S.)231);

(3) *Scyllarides* Gill, 1898 (Class Crustacea, Order Decapoda) (Z.N.(S.)473);

(4) *Lysiosquilla* Dana, 1852 (Class Crustacea, Order Stomatopoda) (Z.N.(S.)474);

(5) *Odontodactylus* Bigelow, 1893 (Class Crustacea, Order Stomatopoda) (Z.N.(S.)475);

(6) all names for " Petrificata " in Volume 3 of Linnaeus, 1768, *Syst. Nat.* (ed. 12) and in corresponding portions of the following later editions of the above work :—

  (*a*) Gmelin (J. F.), 1793, *Syst. Nat.* (ed. 13), vol. 3 ;
  (*b*) Houttuyn (M.), 1785, *Natuurlyke Historie*, vol. 3 ;
  (*c*) Turton (W.), 1806, *Gen. Syst. Nature*, vol. 7 (Z.N.(S.)418);

(7) *Conchidium* Oehlert, 1887, and *Pentamerus* Sowerby (J.), 1813 (Class Brachiopoda) (Z.N.(S.)286).

2. In accordance with the procedure agreed upon at the Session held by the International Commission on Zoological Nomenclature in Paris in 1948 (see 1950, *Bull. zool. Nomencl.* **4** : 56), corresponding Notices have been sent to the journals " Nature " and " Science."

FRANCIS HEMMING

Secretary to the International Commission on Zoological Nomenclature

Secretariat of the
International Commission on
Zoological Nomenclature,
28, Park Village East, Regent's Park,
LONDON, N.W.1, England.
10*th April*, 1951.

PROPOSED DETERMINATION UNDER THE PLENARY POWERS OF THE SPECIES TO WHICH THE TRIVIAL NAME "SIRTALIS" LINNAEUS, 1758 (AS PUBLISHED IN THE BINOMINAL COMBINATION "COLUBER SIRTALIS") (CLASS REPTILIA) IS TO BE APPLIED

By KARL P. SCHMIDT
(*Chief Curator of Zoology, Chicago Natural History Museum, Chicago, Illinois, U.S.A.*)
and
ROGER CONANT
(*Curator, Philadelphia Zoological Garden, Philadelphia, Pennsylvania, U.S.A.*)

(Commission's reference Z.N.(S.)433)

Changes of currently used trivial names of North American snakes are proposed by L. M. Klauber, 1948 (Copeia **1948** (No. 1) : 1-14). The changes in question are all valid under the International Rules, and the changes are based on an exhaustive examination of both the nomenclatorial and zoological questions at issue.

One of the names in question involves two of the most abundant snakes in the North American fauna, which have appeared under their currect check-list names (e.g., Stejneger, L., and Thomas Barbour. *A check-list of North American Amphibians and Reptiles* : 171-172) for more than 100 years and have accumulated very large numbers of references. The double transfer of the great list of references would work an especial hardship on the non-taxonomic zoologist, and would require an explanatory phrase accompanying use of the names in the sense proposed by Klauber.

We accordingly ask the Commission to use their plenary powers to direct that the trivial name *sirtalis* Linnaeus, 1758 (as published in the binominal combination *Coluber sirtalis*) shall apply to the species described and figured as *Tropidonotus sirtalis* by J. E. Holbrook in 1842 in *North American Herpetology ; or, a description of the reptiles inhabiting the United States.* Philadelphia, Dobson : 5 vols., illus. (Vol. **4** : 41, pl. 11), and that "Canada" (restricted to the vicinity of Quebec, see Robert F. Inger, 1946, *Copeia*, **1946** : 254) is to be treated as the type locality of the species, the nomenclature of which is so stabilised.

We further request that the above name, so stabilised, be added to the *Official List of Specific Trivial Names in Zoology*, together with the trivial name *saurita* Linnaeus, 1766 (as published in the binominal combination *Coluber saurita*), the names of these two species being thus placed beyond the range of further dispute. It is to be noted that the currently recognised generic combinations *Thamnophis sirtalis* and *Thamnophis sauritus* have been in use since 1892 and 1893 respectively (cf. Stejneger (L.) and Barbour (T.). 1917. *A check-list of North American Amphibians and Reptiles* (1st ed.) : 103).

The use of the trivial name *sirtalis* Linnaeus for the common garter snake has been unquestioned for more than 100 years. Of the American herpetologists canvassed on the subject of the present application, the majority give it their support. The specialists in favor of the above request are :—

S. C. Bishop, University of Rochester.
C. M. Bogert, The American Museum of Natural History.
Fred R. Cagle, Tulane University.
A. F. Carr, University of Florida.
Doris M. Cochran, United States National Museum.
D. Dwight Davis, Chicago Natural History Museum.
E. R. Dunn, Haverford College.
J. A. Fowler, George Washington University.
Helen T. Gaige, 1211, Ferdon Road, Ann Arbor, Michigan.
Howard K. Gloyd, Chicago Academy of Sciences.
Coleman J. Goin, University of Florida.
Chapman Grant, 2970, 6th Avenue, San Diego, California.
A. B. Grobman, University of Florida.
Norman Hartweg, Museum of Zoology of Michigan University.
R. F. Inger, Chicago Natural History Museum.
Murray L. Johnson, 1207, Medical Arts Building, Tacoma 2, Washington.
Arthur Loveridge, Museum of Comparative Zoology, Harvard.
M. Graham Netting, Carnegie Museum.
J. A. Oliver, University of Florida.
Grace Orton, Carnegie Museum.
C. H. Pope, Chicago Natural History Museum.
Benjamin Shreve, Museum of Comparative Zoology, Harvard.
J. R. Slater, College of Puget Sound.
W. H. Stickel, Fish and Wildlife Service.
R. C. Stebbins, Museum of Vertebrate Zoology, University of California.

These in favor of the change *sensu* Klauber :—

L. M. Klauber, 233, West Juniper Street, San Diego, California.
C. D. Perkins, Zoological Society of San Diego.
H. M. Smith, University of Illinois.

Not voting :—

G. S. Myers, Stanford University.
E. H. Taylor, University of Kansas.

PROPOSED USE OF THE PLENARY POWERS TO VALIDATE THE GENERIC NAME " CRANGON " FABRICIUS, 1798, FOR THE COMMON SHRIMP AND THE GENERIC NAME " ALPHEUS " FABRICIUS, 1798, FOR THE SNAPPING SHRIMPS (CLASS CRUSTACEA, ORDER DECAPODA)

By L. B. HOLTHUIS
(*Rijksmuseum van Natuurlijke Historie, Leiden, The Netherlands*)

(Commission's reference Z.N.(S.)231)

The present application relates to two generic names in the Crustacea Decapoda, each of which is commonly used by the majority of carcinologists, but each of which, under a strict application of the *Règles*, is inapplicable in the sense in which it is employed. For each of these names (*Alpheus* Fabricius, 1798, and *Crangon* Fabricius, 1798) is an invalid junior homonym of an identical generic name published in a different sense by Weber in 1795. The strict application of the *Règles* to these names would involve the transfer of the generic name *Crangon* (as from Weber, 1795) from the Common Shrimp to a genus of Snapping Shrimps. The ruthless application of the *Règles* in this way would lead to enormous confusion, not only in systematic literature but also in economic fisheries literature. It would also cause the most serious confusion in the teaching of zoology.

The following are the original references to the generic names dealt with in the present application :—

Alpheus Weber, 1795, *Nomencl. ent.* : 91.

Alpheus Fabricius, 1798, *Suppl. Ent. syst.* : 380, 404 (type species, by subsequent selection by Latreille, 1810 (*Consid. gén. Crust. Arach. Ins.* : 422) : *Alpheus avarus* Fabricius, 1798, *Suppl. Ent. syst.* : 404).

Crangon Weber, 1795, *Nomencl. ent.* : 94 (type species, by monotypy : *Astacus malabaricus* Fabricius, 1775, *Syst. Ent.* : 415).

Crangon Fabricius, 1798, *Suppl. Ent. syst.* : 387, 409 (type species, by absolute tautonymy : *Cancer crangon* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 632).

Crago Lamarck, 1801, *Syst. Anim. sans Vertèbr.* : 159 (type species, by monotypy : *Cancer crangon*, Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 632).

Prior to the year 1904, Weber's generic names had been ignored and the Common Shrimp had been placed in the genus *Crangon* Fabricius, 1798, while the generic name *Alpheus* Fabricius, 1798, had been used for Snapping Shrimps. In the year 1904, however, Rathbun revived the names in Weber's *Nomenclator entomologicus* of 1795 and accordingly pointed out (*Proc. biol. Soc. Wash.* **17** : 170) that under the Law of Priority the name *Alpheus* was not available for the Snapping Shrimps, the name *Alpheus* Fabricius, 1798, having, as its type species, a species (*Alpheus avarus* Fabricius, 1798) that was congeneric with the species (*Astacus malabaricus* Fabricius, 1775) which was the type species of the earlier generic name *Crangon* Weber, 1795. Under the *Règles*, Rathbun was entirely correct in the contention which she so advanced. The generic name *Crangon* Weber, 1795, though published without any description, contained four nominal species of which one (*Astacus malabaricus* Fabricius) was the name of a previously published nominal species; the generic name *Crangon* Weber, 1795, thus satisfies the requirements of Proviso (a) to Article 25, even under the narrow definition laid down in the Commission's *Opinion* 1, for, being a monotypical genus, it had an indicated type species. Rathbun further argued that the name *Alpheus* Fabricius, 1798, was invalid as a junior homonym of the generic name *Alpheus* Weber, 1795, a genus established without a description or definition, with no designated or indicated type species and with more than one previously published nominal species referred to it. At that time generic names published in this manner were commonly treated as satisfying the requirements of Proviso (a) to Article 25 (notwithstanding the explicit provisions in *Opinion* 1). It was not until 1948 that all doubt on this subject was removed by the Thirteenth International Congress of Zoology, when it inserted words in the *Règles* to secure " that a generic or sub generic name published before 1st January, 1931, shall be available under Article 25 as from the date of its original publication not only when (as at present) it was then accompanied by a definition or description or when the genus was monotypical or when a type species was designated or indicated by the original author when publishing the name but also when the name, on being first published, was accompanied by no verbal definition or description, the only indication given being that provided by the citation under the generic or subgeneric name concerned of the names of one or more previously published nominal species (" Official Record of Proceedings of the International Commission on Zoological Nomenclature at its Session held in Paris in July, 1948 ", *in* 1950, *Bull. zool. Nomencl.* **4** : 78-80). Thus, under the Paris amendment of Article 25 Rathbun's rejection of the name *Alpheus* Fabricius, 1798, as a junior homonym of the name *Alpheus* Weber, 1795, is retrospectively rendered quite correct.

Rathbun pointed out also that the name *Crangon* Fabricius, 1798, was a junior homonym of the name *Crangon* Weber, 1795 (which, as explained above, she applied to the Snapping Shrimps) and therefore that for this reason also the Common Shrimp could no longer be known by the name *Crangon*. She accordingly adopted for the Common Shrimp the name *Crago* Lamarck, 1801, the next oldest published generic name for that species.

Rathbun thus used the generic name *Crangon* Weber, 1795, for the genus of Snapping Shrimps hitherto called by the name *Alpheus* Fabricius, 1798, and the name *Crago* Lamarck, 1801, for the Common Shrimp hitherto called by the name *Crangon* Fabricius, 1798. Prior to the publication of her paper, all authors used the name *Crangon* Fabricius, 1798, for the Common Shrimp and the name *Alpheus* Fabricius, 1798, for the genus of Snapping Shrimps; since the publication of her paper, the majority of workers have continued to use these names in this way, Rathbun being followed almost exclusively by American authors only. Thus, in the literature which I have myself examined, more than 340 authors (of whom 170 published their papers after 1904) have used the name *Crangon* Fabricius, 1798, for the Common Shrimp, while only about 40 have used the name *Crago* Lamarck, 1801, for that species. The name *Alpheus* Fabricius, 1798, has, to my knowledge, been used for the Snapping Shrimp by more than 220 authors (of whom 110 published their papers after 1904), while only about 50 authors have used the name *Crangon* Weber, 1795, in this sense.

The genus *Crangon* Fabricius (= *Crago* Lamarck) is the commonest genus of shrimps on the coasts of the northern parts of the Atlantic and Pacific Oceans and is of great economic importance ; the genus *Alpheus* Fabricius (= *Crangon* Weber) is the largest genus of Snapping Shrimps, containing over 180 species, and is widely distributed throughout the tropical and sub-tropical regions of the globe. It is therefore of the highest importance to put an end to the present state of confusion and to secure that for the future there shall be uniformity in the names applied to these genera. Further, both *Crangon* Fabricius and *Alpheus* Fabricius are the type genera of families ; these families are known by European workers as CRANGONIDAE and ALPHEIDAE respectively, but by American authors as CRAGONIDAE and CRANGONIDAE ; this difference in the names used for these well-known families is extremely confusing, more especially as it involves the transfer of the name CRANGONIDAE from one family to another and the use for the two families of names CRANGONIDAE and CRAGONIDAE which, being derived from the same word, are undesirably similar to one another. The transfer, as between these two families, of the name CRANGONIDAE would give rise to a further confusion through the fact that the family known by this name by European workers contains a number of genera, the names of which are based upon the word *Crangon*, e.g., *Notocrangon* Coutière, 1900 ; *Sclerocrangon* Sars, 1882 ; *Prionocrangon* Wood-Mason, 1891 ; *Paracrangon* Dana, 1852. The existence of these names would be extremely anomalous if the generic name *Crangon* were to be removed to a different family and would be a permanent cause of confusion and misunderstanding. Similarly, the family known as ALPHEIDAE by European workers contains genera, the names of which are based on the word *Alpheus*, e.g., *Synalpheus* Bate, 1888 ; *Alpheopsis* Coutière, 1897 ; *Alpheinus* Borradaile, 1899. The existence of genera with such names in a family called CRANGONIDAE would be further source of confusion.

Accordingly, I ask the International Commission on Zoological Nomenclature to use their plenary powers to prevent the permanent confusion that is otherwise unavoidable. The concrete proposals which I therefore submit for consideration are that the Commission should :—

(1) use their plenary powers :—

  (a) to suppress the under-mentioned generic names :—
    (i) *Alpheus* Weber, 1795 ;
    (ii) *Crangon* Weber, 1795 ;
  (b) to validate the under-mentioned generic names :—
    (i) *Alpheus* Fabricius, 1798 ;
    (ii) *Crangon* Fabricius, 1798 ;

(2) place the under-mentioned generic names on the *Official List of Generic Names in Zoology*, with the type species severally specified below :—

   (a) *Alpheus* Fabricius, 1798 (type species, by subsequent selection by Latreille (1810) : *Alpheus avarus* Fabricius, 1798) ;

   (b) *Crangon* Fabricius, 1798 (type species, by absolute tautonymy : *Cancer crangon* Linnaeus, 1758) ;

(3) place the under-mentioned generic names on the *Official Index of Rejected and Invalid Generic Names in Zoology* :—

   (a) *Alpheus* Weber, 1795, as suppressed under (1) (a) (i) above ;

   (b) *Crangon* Weber, 1795, as suppressed under (1) (a) (ii) above ;

   (c) *Crago* Lamarck, 1801 (an objective synonym of *Crangon* Fabricius, 1798, as validated under (1) (b) (ii) above ;

(4) place the under-mentioned trivial names on the *Official List of Specific Trivial Names in Zoology* :—

   (a) *avarus* Fabricius, 1798 (as published in the binominal combination *Alpheus avarus*) ;

   (b) *crangon* Linnaeus, 1758 (as published in the binominal combination *Cancer crangon*).

I should add, with reference to the decision by the Thirteenth International Congress of Zoology, that in future the gender of every generic name added to the *Official List* is to be specified therein (1950, *Bull. zool. Nomencl.* **4** : 341), that the gender of the generic name *Alpheus* is masculine and that of the generic name *Crangon* is feminine.

ON THE CONFUSION WHICH WOULD ARISE FROM THE ACCEPTANCE OF THE GENERIC NAMES "CRANGON" WEBER, 1795, AND "ALPHEUS" WEBER, 1795 (CLASS CRUSTACEA, ORDER DECAPODA)

By POUL HEEGAARD
(*University of Copenhagen, Denmark*)

(Commission's reference Z.N.(S.)231)

The urgent need for securing a definite ruling on the manner in which the generic names *Crangon* and *Alpheus* should be used and thus putting an end to the confusion which has arisen through the use by some authors of these names in the manner adopted by Weber in 1795 instead of in the manner adopted by Fabricius in 1798, which had hitherto been accepted by all authors, led me in March, 1949, to submit an application to the International Commission on Zoological Nomenclature asking (1) that the plenary powers should be used to suppress the above names as published by Weber, and (2) to validate the use of those names in the accustomed Fabrician sense. I am informed, however, by the Secretary to the Commission that an application in a similar sense was submitted to the Commission by Dr. L. B. Holthuis of the Rijksmuseum van Natuurlijke Historie, Leyden, in November, 1946. The Secretary to the Commission has communicated to me the text of Dr. Holthuis' application, with which I find myself in complete agreement. In these circumstances I do not think it necessary to proceed with my application. It will be sufficient if I express my strong hope that the Commission will, as proposed, solve this problem by validating the names *Crangon* Fabricius and *Alpheus* Fabricius with the type species severally specified in Dr. Holthuis' application.

ON DR. POUL HEEGAARD'S PROPOSAL THAT THE NAMES " CRANGON " FABRICIUS, 1798, AND " ALPHEUS " FABRICIUS, 1798 (CLASS CRUSTACEA, ORDER DECAPODA) SHOULD BE VALIDATED UNDER THE PLENARY POWERS

By the late ROBERT GURNEY
(*Oxford*)

(Commission's reference Z.N.(S.)231)

I understand that Dr. P. Heegaard has made application to the International Commission on Zoological Nomenclature to restore the names *Crangon* Fabricius, 1798, and *Alpheus* Fabricius, 1798, to their original meaning by overriding the earlier use of the first of these names by Weber in 1795 which were declared to be available under the Commission's *Opinion* 17. I should like to support Dr. Heegaard's application.

Weber's *Nomenclator entomologicus* is a compilation of *nomina nuda* which has not, and presumably never had, any scientific value. So far as the Crustacea are concerned, the only claim to validity that any of the specific names have is derived from their reference to Fabricius' *Entomologia systematica*. The generic names, on the other hand, are borrowed from Fabricius' *Supplementum*, which was not published until 1798, but these names are applied by Weber in a sense entirely different from Fabricius' intention. *Opinion* 17 places us in the ridiculous position of accepting specific names when they refer to the *Entomologia systematica*, but rejecting those taken from the *Supplementum* because this had not then been published ; while generic names taken from the *Supplementum*, and misplaced, are accepted as available because they were published before it ! The minority view expressed by Hoyle at the time when *Opinion* 17 was rendered gives the commonsense view.

The consequences of *Opinion* 17 have been disastrous. The name *Crangon*, unless accompanied by some explanation, has ceased to be intelligible to anyone not a specialist in Crustacean systematics. Any student of geographical distribution, for instance, might be seriously misled by species of *Crangon* appearing in faunistic lists.

ON DR. L. B. HOLTHUIS' PROPOSALS RELATING TO THE GENERIC NAMES " CRANGON " WEBER, 1795, AND " CRANGON " FABRICIUS, 1798

By ALBERT H. BANNER
(*University of Hawaii, Honolulu* 14, *Territory of Hawaii*)

(Commission's reference Z.N.(S.)231)

(Extract from a letter dated 24th October, 1950)

I have been apprised by Dr. Fenner A. Chace, of the U.S. National Museum, of the proposal of Dr. L. B. Holthuis that the International Commission on Zoological Nomenclature use its plenary powers to suppress the names *Crangon* Weber and *Crago* Lamarck for *Alpheus* and *Crangon* of Fabricius. As I have devoted some time to the taxonomy of the Hawaiian members of the CRANGONIDAE (or ALPHEIDAE) and as I have reviewed the literature on this change in names, I should like to submit my views.

I believe that it was most unfortunate that this most confusing change in names was made. However, on the basis of *Opinion* 17 of the Commission, any carcinologist abiding by the rules of nomenclature had two alternatives : to accept the ruling or to appeal for a suspension of the rules. In the forty years since the decision there has been no official appeal in proper form until now, and many later taxonomists have used the names of Weber in good faith, abiding by the rules of nomenclature and the rulings of the Commission.

I believe that a suspension of the rules at this late date would not only confuse the literature further, but would also in effect penalise those who followed the rulings of the International Commission on Zoological Nomenclature. I suggest, therefore, that the proposal of Dr. Holthuis be rejected.

ON DR. L. B. HOLTHUIS' PROPOSALS RELATING TO THE GENERIC NAMES " CRANGON " WEBER, 1795, AND " CRANGON " FABRICIUS, 1798

By FENNER A. CHACE, Jr.
(*Smithsonian Institution, U.S. National Museum, Washington, D.C., U.S.A.*)

(Commission's references Z.N.(S.)231)

(Extracts from letters dated 15th September and 20th October, 1950)

A. *Extract from a letter dated* 15*th September*, 1950.

Thank you very much for your letter of 29th August, 1950, and the enclosed copy of your letter to Dr. Holthuis regarding the *Crangon-Alpheus-Crago* matter. It is good to know that some action can be expected on this question before long.

I do not have time just now to review the literature as carefully as I would like to do before submitting a comprehensive statement of my views. I assume that such a statement is not needed or even wanted until after the publication of Dr. Holthuis's application. As I have written Dr. Holthuis, however, it is my feeling that suspension of the rules regarding this question at this late date will not entirely clarify the situation. All of the American carcinologists have, to my knowledge, accepted *Crangon* for *Alpheus* and *Crago* for *Crangon* and this change has become firmly established in the American literature. I also know of one European—and there may be others—who has also made this change. Had the application been made when Miss Rathbun proposed the adoption of Weber's name, I would have been inclined to uphold it, inasmuch as the names of two very large genera were involved. I have also written Dr. Holthuis that I personally will be willing to accept any measures recommended by the Commission and I feel fairly certain that most American authors would eventually follow suit. However, this would not remove the confusion from synonymies any more than would the eventual adoption of Miss Rathbun's changes by workers in other parts of the world.

I will try to submit a more detailed analysis at a later date.

B. *Extract from a letter dated* 20th *October*, 1950.

Please excuse the delay in replying to your letter Z.N.(S.)231 of 30th September, 1950, regarding the application of Dr. L. B. Holthuis, of the Rijksmuseum at Leiden, for a decision by the International Commission on Zoological Nomenclature covering *Crangon* versus *Alpheus* and *Crago* versus *Crangon*. It has taken some time to compile and analyse a bibliography for these genera for the past 45 years, and there is always too little time to devote to such research. I must confess that I owe a very real debt of gratitude to Dr. Holthuis in this connection ; without a copy of an unpublished synonymy and bibliography of the caridean decapod crustaceans which he prepared a few years ago, this survey would have required a great deal more time and would have been much less complete.

As mentioned in my letter of 15th September, 1950, the change from *Alpheus* Fabricius, 1798, to *Crangon* Weber, 1795, and from *Crangon* Fabricius, 1798, to *Crago* Lamarck, 1801, is now recognised by practically all of the active specialists on decapod Crustacea in this country. It has been accepted by J. C. Armstrong, E. P. Creaser, M. W. Johnson, W. L. Schmitt and myself, and rejected only by L. Boone. The use of *Crangon* of Weber and *Crago* of Lamarck by most of the specialists has led to the complete acceptance of the names in all of the ecological and other publications in this country that I have been able to find. Recent biologists, other than taxonomists, who have used the names in this sense include : B. R. Coonfield, H. H. Darby, W. M. Hess, W. G. Hewatt, Johnson and Snock, G. E. MacGinitie, and A. S. Pearse.

In South America, these generic names apparently have not been used in either sense by any decapod specialists who are still active, but *Alpheus* has been employed by two Brazilian ecologists, L. H. Matthews and L. P. H. de Oliveira.

The only active carcinologist in the Hawaiian Islands who has published extensively on decapods, C. H. Edmondson, has used *Crangon* for the snapping shrimps since 1923. This name is also being accepted by A. H. Banner in a forthcoming report on the snapping shrimps of the eastern Pacific islands.

Alpheus has been retained by E. P. Estampador and H. A. Roxas of the Philippine Islands, but neither of these authors can be considered active crustacean taxonomists.

In Japan, D. Miyadi and Y. Yokoya have retained *Alpheus*, while Maki and Tsuchikya and T. Urita have accepted *Crangon* for the snapping shrimps. All of these may be considered professional carcinologists.

In Australia, both of the specialists on shrimps, H. M. Hale and F. A. McNeill, made the change to *Crangon* in 1926 and 1927, and two other authors who have published little taxonomically, B. H. Anderson and J. A. Tubb, have followed their example.

The only active Chinese worker to publish on the genera, S. C. Yu, accepted *Crangon* in 1935.

One Indo-Chinese student, R. Serene, has retained *Alpheus*, but there is no indication that he has published more than a preliminary faunal list.

A Siamese author, C. Suvatti, has employed *Crangon*, but he also is not a professional carcinologist.

In India, *Alpheus* has been used by Panikkar and Aiyar, but these authors are evidently not primarily taxonomists.

One Soviet publication, by Derjugin and Kobjakova, lists *Alpheus*, but there is no evidence that these workers are still active.

In South Africa, K. H. Barnard continues to accept *Alpheus* in his extensive monograph on the decapods of South Africa published this year.

Finally, in Europe, the change from *Alpheus* to *Crangon* has been accepted much more slowly than elsewhere. The active carcinologists who continue to employ *Alpheus* include : H. Blass, I. Gordon, L. B. Holthuis, M. V. Lebour, A. Nobre, O. Pesta, E. Sivertsen, and R. Zariquiey Alvarez. Two active European specialists, J. Hult and T. Monod, have accepted the change to *Crangon*. Of the European authors who are not primarily specialists in the field at the present time, W. Arndt, P. Audigé, M. Kollmann, T. P. Maccagno, L. Nouvel-Van Rysselberge, F. S. Russell, and P. Volz have used *Alpheus* and only one, T. A. Stephenson, has accepted *Crangon*.

This survey shows that of the 26 active carcinologists here recognised who have published on this genus of snapping shrimps, exactly half have accepted the change to *Crangon* and half have retained *Alpheus*. The shift to *Crangon* which became significant soon after 1920 and has steadily increased since then, has been retarded primarily by the European workers who have been reticent to change the name of the commercial shrimp of northern Europe from *Crangon* to *Crago* and who have also been averse on purely personal grounds from accepting any of Weber's generic names.

As I wrote in my earlier letter, had Dr. Holthuis's application been made 25 or 30 years ago when *Crangon* had not become firmly entrenched in much of the carcinological and ecological literature for the genus of snapping shrimps, I believe that I would have supported it because of its bearing on two of the largest families of caridean crustaceans. Now, however, I cannot see that anything is to be gained by exercise of the plenary powers of the Commission. If *Crangon* of Weber is placed on the " Official List," the European shrimps assigned to *Crangon* of Fabricius by most European workers will have to be shifted to *Crago* of Lamarck. This change is not as radical as it might be because of the fortunate similarity in names. On the other hand, if Weber's name is rejected, not only will the name of the commercial shrimps of the Pacific coast of North America have to be changed from *Crago* (which has become firmly established) back to *Crangon*, but the use of *Crangon* for the snapping shrimps, which has been invariably the case in the rather extensive American technological literature dealing with underwater sound and sonar devices during and since World War II, will have to be abandoned in favour of *Alpheus*. This latter is an important factor for consideration.

The contention might be made that a favourable action on Dr. Holthuis's application would be more generally accepted than an unfavourable one, because of the aversion of European workers to the adoption of Weber's names but I do not think that this factor is of great significance. I feel sure that Dr. Holthuis, like most of the carcinologists in other countries, will follow any recommendation made by the Commission in this case. There is little question that Dr. Holthuis is the foremost authority on the Caridea in the world today and, as such, his usage will almost surely be followed by nearly all of the other decapod specialists, especially those of his generation which will soon become the predominant group in Europe and elsewhere.

ON THE PROPOSED VALIDATION OF THE NAMES " CRANGON" AND " ALPHEUS" AS FROM FABRICIUS, 1798, BY THE SUPPRESSION OF THE NAMES " CRANGON" WEBER, 1795, AND " ALPHEUS" WEBER, 1795 (CLASS CRUSTACEA, ORDER DECAPODA) BY THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE : SUPPLEMENTARY NOTE

By L. B. HOLTHUIS
(*Rijksmuseum van Natuurlijke Historie, Leiden, The Netherlands*)

(Commission's reference Z.N.(S.)231)

(Extract from a letter dated 14th December, 1950)

The enumeration of workers in carcinology compiled by Dr. Fenner A. Chace, Jr., gives a clear picture of the present situation. I should like to add only a few remarks, mainly concerning the European authors ; these remarks, however, will not cause many changes to the picture as a whole.

Europe. I should like to omit from Dr. Chace's list the names of A. Nobre and W. Arndt, since both these authors died some time ago. The opinion of Nobre, who wrote a handbook on the Decapods of Portugal, will continue to exercise much influence, especially in his country. Furthermore, I should like to include among the active European decapod specialists A. Brian, A. Giordani Soika, H. Nouvel and E. Sollaud, all of whom use the names *Alpheus* Fabricius and *Crangon* Fabricius. It, of course, is possible to add a considerable number of names to the second group mentioned by Dr. Chace, namely that containing authors who are not primarily specialists in decapod taxonomy. However, it certainly has not been Dr. Chace's intention to make this list complete either for the American or the European authors. Furthermore here may be mentioned a group of authors, who are still living, but who have not been active in the field of Decapod Crustacea for a long time : W. T. Calman, one of the greatest authorities on Crustacea, H. Coutière, once the best specialist of the family ALPHEIDAE, A. Schellenberg, who wrote a monographic treatment of the German Decapods, and B. Parisi, while perhaps O. Pesta also is better placed here. All these authors too use the names *Alpheus* Fabricius and *Crangon* Fabricius. Summarising, we may state that when in America the names *Crago* Lamarck and *Crangon* Weber are accepted by practically all specialists and non-specialists, in Europe the names *Crangon* Fabricius and *Alpheus* Fabricius are equally unanimously accepted. (J. Hult used the name *Crangon* Weber, when dealing with material from the Galapagos Archipelago ; Th. Monod did so with West African material, and J. A. Stephenson with material from the Great Barrier Reef of Australia.)

Soviet Union. J. A. Birstein, one of the foremost Russian authorities on Decapod Crustacea at present, uses the name *Crangon* Fabricius for the common shrimp.

China. S. C. Yu died some time ago. His work on Chinese Decapods, however, probably will exercise its influence in China for a long period to come, especially so since he gave a revision of the Chinese species of *Alpheus*, which genus was named *Crangon* Weber by him.

Japan. One of the foremost Japanese specialists of Decapoda Macrura of the present time, I. Kubo, uses the name ALPHEIDAE for the family of Snapping Shrimps.

Summarising, I get the following numbers of active Decapod specialists: those using the names *Crangon* Weber and *Crago* Lamarck number 13 (I include A. H. Banner, which Dr. Chace clearly did not), those employing the names *Crangon* Fabricius and *Alpheus* Fabricius number 15. These figures thus differ quite insignificantly from those given by Dr. Chace. Since it is very difficult to define an " active carcinologist," the numbers may be changed in either direction with reasonable arguments for so doing. It is next to impossible to give, for active non-specialists working with the two genera in question, figures similar to those given above for active decapod specialists; for here it is in most cases hardly possible to determine whether a worker is active or not. Still, the opinion of these non-specialists is perhaps more important than that of the specialists, since the former are more numerous and are more in need of a stabilised name than the latter.

PROPOSED USE OF THE PLENARY POWERS TO RENDER THE GENERIC NAME " SCYLLARIDES " GILL, 1898 (CLASS CRUSTACEA, ORDER DECAPODA) THE OLDEST AVAILABLE NAME FOR THE SPECIES CURRENTLY REFERRED THERETO

By L. B. HOLTHUIS

(*Rijksmuseum van Natuurlijke Historie, Leiden, The Netherlands*)

(Commission's reference Z.N.(S.)473)

The present application relates to a generic name, *Scyllarides* Gill, 1898 (Class Crustacea, Order Decapoda), which is in general use, but which is not the oldest available name for the genus concerned. The ruthless application of the *Règles* in the present case would give rise to much quite unnecessary confusion, and I accordingly ask the International Commission on Zoological Nomenclature to prevent this confusion by using their plenary powers in such a way as to permit the continued use of the above generic name.

The following are the original references to the generic names dealt with in the present application :—

Scyllarides Gill, 1898, *Science* (n.s.) **7** : 98 (type species, by original designation : *Scyllarus aequinoctialis* Lund, 1793, *Skr. naturh. Selsk. Kbh.* (2) **2** : 21).

Scyllaridia Bell, 1857, *Monogr. foss. malacostr. Crust. Great Brit.* **1** : 35 (type species, by monotypy : *Scyllaridia koenigi* Bell, 1857, *Monogr. foss. malacostr. Crust. Great Brit.* **1** : 35).

Pseudibacus Guérin-Méneville, 1855, *Rev. Mag. Zool.* (2) **7** : 137 (type species, by monotypy : *Pseudibacus veranyi* Guérin-Méneville, 1855, *Rev. Mag. Zool.* (2) **7** : 137).

The name *Scyllarides* Gill, 1898, is the generally accepted name for a well-known genus of large Decapoda Macrura Reptantia. Strictly, however, this name, though available nomenclatorially, is not, under current taxonomic ideas, available for the genus to which it is at present applied, for twice before the publication of Gill's paper, other authors published different names for genera, having, as their respective type species, species now regarded as congeneric with *Scyllarus aequinoctialis* Lund, the type species of *Scyllarides* Gill, 1898.

First, Guérin-Méneville in 1855 described a new Crustacean from the Mediterranean under the name *Pseudibacus varanyi*. Later, it was found that this Crustacean was the natant stage of the species at present best known as *Scyllarides latus* (Latreille, 1803) (=*Scyllurus latus* Latreille, 1803, *Hist. nat. Crust. Ins.* **6** : 182), a common inhabitant of the Mediterranean and West African coasts. The generic name *Pseudibacus* Guérin-Méneville, 1855, is the oldest available generic name for any of the species at present recognised as belonging to the genus *Scyllarides* Gill, 1898, and accordingly the latter name should be replaced by the name *Pseudibacus* Guérin-Méneville.

Second, Bell in 1857 described a new genus of fossil Crustacea, for which he published the generic name *Scyllaridia*. The type species of this genus is *Scyllaridia koenigi* Bell, 1857. This species was considered by Woods (1925, *Mon. palaeontol. Soc.* Lond. **1922-1923** : 39) and by Glaessner (1929, in *Fossilium Catalogus* **9** (41) : 375) to be referrable to the genus at present known by the name *Scyllarides* Gill, 1898.

Thus, on the basis of current taxonomic ideas, the generic name *Scyllarides* Gill, 1898, is twice over a subjective synonym of an older available generic name, first to *Pseudibacus* Guérin-Méneville, 1855, second, to *Scyllaridia* Bell, 1857. Under the Law of Priority, the correct name for this genus is therefore *Pseudibacus* Guérin-Méneville, 1855. But the name *Pseudibacus* is not at present used as a generic name at all, being employed only to denote an immature stage (the so-called *Pseudibacus* stage), while the name *Scyllaridia* has never been used for any but fossil species, while even for these it was dropped by Woods (1925) in favour of the well-known name *Scyllarides* Gill, 1898. As the name *Scyllarides* Gill is at present in general use, both for immature and adult forms of living species and also for fossil species, no useful purpose would be served—and, indeed, only unnecessary confusion caused—if the well-known name *Scyllarides* Gill, 1898, were to be replaced by either of the little-known names (*Pseudibacus* Guérin-Méneville, 1855, and *Scyllaridia* Bell, 1857) referred to above. I accordingly ask the International Commission on Zoological Nomenclature to prevent confusion from arising in the nomenclature of this group, by using their plenary powers in such a way as to secure that the generic name *Scyllarides* Gill, 1898, is the oldest available generic name for the species at present referred to that genus. The concrete proposals which I therefore submit for consideration are that the Commission should :—

(1) use their plenary powers to suppress the under-mentioned generic names for the purposes of the Law of Priority, but not for those of the Law of Homonymy :—

   (a) *Pseudibacus* Guérin-Méneville, 1855 ;
   (b) *Scyllaridia* Bell, 1857 ;

(2) place on the *Official List of Generic Names in Zoology* the generic name : *Scyllarides* Gill, 1898 (type species, by original designation : *Scyllarus aequinoctialis* Lund, 1793) ;

(3) place on the *Official Index of Rejected and Invalid Names in Zoology* the generic names (a) *Pseudicacus* Guérin-Méneville, 1855, and (b) *Scyllaridia* Bell, 1857, suppressed under (1) above ;

(4) place on the *Official List of Specific Trivial Names in Zoology* the trivial name *aequinoctialis* Lund, 1793 (as published in the binominal combination *Scyllarus aequinoctialis*).

I should add, with reference to the decision by the Thirteenth International Congress of Zoology, that in future the gender of every generic name added to the *Official List* is to be specified therein (1950, *Bull. zool. Nomencl.* **4** : 341), that the gender of the generic name *Scyllarides* is masculine.

PROPOSED USE OF THE PLENARY POWERS TO RENDER THE GENERIC NAME "LYSIOSQUILLA" DANA, 1852 (CLASS CRUSTACEA, ORDER STOMATOPODA) THE OLDEST AVAILABLE NAME FOR THE SPECIES CURRENTLY REFERRED THERETO

By L. B. HOLTHUIS
(*Rijksmuseum van Natuurlijke Historie, Leiden, The Netherlands*)

(Commission's reference Z.N.(S.)474)

The present application relates to a generic name, *Lysiosquilla* Dana, 1852 (Class Crustacea, Order Stomatopoda), which is in general use and is extremely well known, but which is not the oldest available generic name for the group of species concerned. The ruthless application of the *Règles* in the present case would give rise to enormous confusion, without serving any useful purpose whatever. I accordingly ask the International Commission on Zoological Nomenclature to use their plenary powers in such a way as to permit the continued use of the above generic name.

The following are the original references to the generic names dealt with in the present application :—

Lysiosquilla Dana, 1852, *U.S. Explor. Exped.* **13** : 616 (type species, by selection by Fowler, 1912, *Ann. Rep. New Jersey State Mus.* **1911** : 539 : *Lysiosquilla inornata* Dana, 1852, *U.S. explor. Exped.* **13** : 616).

Erichthus Latreille, 1817, Cuvier's *Règn. anim.* (ed. 1) **3** : 43 (type species, by monotypy : *Astacus vitreus* Fabricius, 1775, *Syst. Ent.* : 417).

The name *Lysiosquilla* is in general use for a genus of Stomatopoda which inhabits the tropical and sub-tropical regions of the globe. Some of the species of this genus are very common, and the name occurs in many places in carcinological literature. In fact, every carcinologist who acknowledges the distinctness of this genus from the genus *Squilla* Fabricius, 1793 (*Ent. syst.* **2** : viii, 511) uses the name *Lysiosquilla* Dana for the adult forms of the species of this genus.

As far back, however, as the year 1817 larvae of species of this genus were placed by Latreille in a genus to which he gave the name *Erichthus*. As the name *Erichthus* Latreille, 1817, is much older than the name *Lysiosquilla* Dana, 1852, it should, under the Law of Priority, be used in place of that generic name by all who subjectively identify these genera with one another. The name *Erichthus* Latreille was often used by the older authors to denote larval forms, but is to-day used as a term to denote a certain group of larvae rather than as a generic name. This may be seen from the fact that at present the term *Lysierichthus* is used to denote the larvae of species of the genus

Lysiosquilla Dana (i.e., the true *Ercihthus* of Latreille), the term *Pseuderichthus* to denote the larvae of the genus *Pseudosquilla* Dana, 1852, and the term *Gonerichthus* to denote the larvae of species of the genus *Gonodactylus* Berthold, 1827, while the original name *Erichthus* has fallen into disuse.

The substitution of the name *Erichthus* Latreille for the name *Lysiosquilla* Dana would cause such very great confusion that I ask the International Commission on Zoological Nomenclature to take the necessary preventive action under their plenary powers. The concrete proposals which I accordingly submit are that the Commission should :—

(1) use their plenary powers to suppress for the purposes of the Law of Priority, but not for those of the Law of Homonymy, the generic name *Erichthus* Latreille, 1817 ;

(2) place the generic name *Lysiosquilla* Dana, 1852 (type species, by selection by Fowler, 1912 : *Lysiosquilla inornata* Dana, 1852) on the *Official List of Generic Names in Zoology ;*

(3) place the generic name *Erichthus* Latreille, 1817, as suppressed under (1) above, on the *Official Index of Rejected and Invalid Generic Names in Zoology ;*

(4) place the trivial name *inornata* Dana, 1852 (as published in the binominal combination *Lysiosquilla inornata*) on the *Official List of Specific Trivial Names in Zoology.*

The gender of the generic name *Lysiosquilla* is feminine.

ON DR. L. B. HOLTHUIS' PROPOSAL THAT THE PLENARY POWERS SHOULD BE USED TO PRESERVE THE USE OF THE GENERIC NAME "LYSIOSQUILLA" DANA, 1852 (CLASS CRUSTACEA, ORDER STOMATOPODA) IN ITS ACCUSTOMED SENSE

By the late ROBERT GURNEY
(*Oxford*)

(Extract from a letter dated 28th December 1946)

(Commission's reference Z.N.(S.)474)

I am entirely in agreement with Dr. Holthuis' proposal in regard to the generic name *Lysiosquilla* Dana, 1852. I can hardly believe that any one would be so anti-social as to propose to use the name *Erichthus* in place of *Lysiosquilla* even if such action were justified under the Rules. But in any case such a proposal, if made at the present time, could not, I think, be successfully maintained, since there is as yet no positive proof that "Erichthus" is the larva of any species of the genus *Lysiosquilla*, still less that it is the larva of any particular species of that genus. There is no reasonable doubt about *Lysiosquilla* having a larva of that type; but, in order to prove his case, such a mischief-maker would, I take it, have to prove that *Erichthus vitreus* (Fabricius) is the larva of a particular species of *Lysiosquilla*. That at the moment he could not do, but the proof may be forthcoming some day and it is very necessary to avoid any more upheavals in nomenclature. I hope that the Commission will get the name *Lysiosquilla* permanently established.

PROPOSED USE OF THE PLENARY POWERS TO VALIDATE THE GENERIC NAME " ODONTODACTYLUS " BIGELOW, 1893 (CLASS CRUSTACEA, ORDER STOMATOPODA)

By L. B. HOLTHUIS
(*Rijksmuseum van Natuurlijke Historie, Leiden, The Netherlands*)

(Commission's reference Z.N.(S.)475)

The present application relates to a generic name *Odontodactylus* Bigelow, 1893, which is in universal use for a well-known genus of Stomatopoda, but which is technically invalid, being a homonym of an earlier generic name which has hitherto been completely overlooked in the literature. The substitution of a totally unknown name for the well-established name *Odontodactylus* would give rise to great confusion and would serve no useful purpose of any kind. I accordingly ask the International Commission on Zoological Nomenclature to prevent the ruthless application of the Law of Priority in this way by using their plenary powers to validate the generic name *Odontodactylus* Bigelow, 1893.

The following are the references to the generic names dealt with in the present application :—

Odontodactylus Bigelow, 1893, *Johns Hopkins Univ.* Circ. **12**: 100 (type species, by subsequent selection by Bigelow, 1931 (*Bull. Mus. comp. Zool.* **72**: 144) : *Cancer scyllarus* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 633).

Gamaris [H.S.], 1876, *Ceylon*, **2** : 275 (type species, by monotypy : *Cancer scyllarus* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 63).

In the second volume of a work published in 1878 under the title " Ceylon, a general Description of the Island, historical, physical, statistical, Containing the most recent information, by an Officer, late of the Ceylon Rifles. London. 1876," the author, whose identity is unknown and who wrote over the initials " H.S.", gave, at the end of the twenty-ninth chapter, a list of the species of Crustacea recorded by H. Milne Edwards (1837, *Hist. nat. Crust.* **2**) as occurring in the Indian seas. In this list " H.S." inserted the entry " *Gamaris scyllarus*, Rump." There is no doubt that the species so referred to is the species *Cancer scyllarus* Linnaeus, 1758.

The above species is, however (as shown above), the type species of the well-known genus *Odontodactylus* Bigelow, 1893.) Accordingly, under the Law of Priority, the name *Odontodactylus* Bigelow is invalid, being an objective junior synonym of the name *Gamaris* [H.S.], 1876. It would, however, be ridiculous to abandon so well established a name as *Odontodactylus* in a favour of a name (*Gamaris*) that has never been in use, is quite unknown and was published by an author who was almost certainly not a carcinologist. I accordingly ask the International Commission to use their plenary powers to prevent the quite unnecessary confusion which follow such a change. The concrete proposals which I therefore submit for consideration are that the Commission should :—

(1) use their plenary powers (a) to suppress the generic name *Gamaris* [H.S.], 1876, for the purposes of the Law of Priority, but not for those of the Law of Homonymy, and (b) to validate the generic name *Odontodactylus* Bigelow, 1893 ;

(2) place on the *Official List of Generic Names in Zoology* the generic name *Odontodactylus* Bigelow, 1893 (type species, by subsequent selection by Bigelow, 1931 : *Cancer scyllarus* Linnaeus, 1758), as validated in (1) (b) above ;

(3) place the generic name *Gamaris* [H.S.], 1876, as suppressed under (1) (a) above, on the *Official Index of Rejected and Invalid Generic Names in Zoology ;*

(4) place on the *Official List of Specific Trivial Names in Zoology* the trivial name *scyllarus* Linnaeus, 1758 (as published in the binominal combination *Cancer scyllarus*).

I should add, with reference to the decision by the Thirteenth International Congress of Zoology, that in future the gender of every generic name added to the *Official List* is to be specified therein (1950, *Bull. zool. Nomencl.* **4** : 341), that the gender of the generic name *Odontodactylus* is masculine.

PROPOSED USE OF THE PLENARY POWERS TO SUPPRESS CERTAIN NAMES PUBLISHED FOR FOSSIL ANIMALS BY LINNAEUS IN 1768 AND BY OTHER AUTHORS IN LATER EDITIONS OF THE WORKS OF LINNAEUS

By the late R. WINCKWORTH
(*London*)

(Commission's reference Z.N.(S.)418)

The twelfth edition of Linnaeus' *Systema Naturae* includes a third volume " Regnum Lapideum," published in 1768. Part of this (pages 153-174) treats of Petrificata and contains a number of binominal names for fossil animals. If, however, an attempt is made to use these names, confusion at once arises : for the generic names correspond to the classes, not to the genera, of the first volume, e.g., *Zoolithus* is the fossil genus equivalent to Mammalia, and *Helmintholithus* to Vermes. The trivial names may correspond to species or to groups of species or to genera. Thus, *Helmintholithus Hammonites* contains four general references and nine further references, $\alpha - \iota$ which are stated to be " totidem distinctae species " : *Helmintholithus Anomites* contains references to eleven species of *Anomia* named in volume 1 : *Helmintholithus Gryphites* is the same as *Anomia Gryphus* of volume 1. It seems difficult to apply these names of fossils without introducing confusion. Application is hereby made to the Commission to suppress the names introduced in Linnaeus, 1768, *Systema Naturae*, (ed. 12) **3 :** 153-174, and also in such other works as are later editions of, or amplifications based on, this volume of *the Systema*.

In particular the suppression should apply to :—

Linnaeus, 1768, *Systema Naturae*, (ed. 12) **3**

J. F. Gmelin, 1793, *Systema Naturae*, (ed. 13) **3**

M. Houttuyn, 1785, *Natuurlyke Historie*, **3**

W. Turton, 1806, *A general System of Nature*, **7**.

This application has the unanimous support of the Nomenclature Committee of the Malacological Society of London.

PROPOSED USE OF THE PLENARY POWERS TO PREVENT THE CONFUSION WHICH WOULD RESULT, UNDER A STRICT APPLICATION OF THE "RÈGLES", FROM THE SINKING OF THE NAME "CONCHIDIUM" AS A SYNONYM OF "PENTAMERUS" SOWERBY, 1813 (CLASS BRACHIOPODA) AND THE TRANSFER OF THE LATTER NAME TO THE GENUS NOW KNOWN AS "CONCHIDIUM"

By F. ELIZABETH S. ALEXANDER, M.A., Ph.D.
(*Sedgwick Museum, Cambridge University, Cambridge*)

(Commission's reference Z.N.(S.)286)

The object of the present application is to ask the International Commission on Zoological Nomenclature to prevent the serious confusion, both in systematic zoology and in stratigraphy, which would result from the strict application of the *Règles* to the generic names *Pentamerus* Sowerby (J.), 1813, and *Conchidium* Oehlert, 1887.

I. History of the generic name "Conchidium" commonly, though erroneously, attributed to Linnaeus

The earliest reference to the generic name *Conchidium* which has so far been traced is in Linnaeus' *Museum Tessinianum* (: 90, pl. V, fig. 8) published in 1753, where a species is described (with a locality) and figured under the accidentally binominal name *Conchidium biloculare*. The species so described and figured is perfectly recognisable and is the species named *Anomia bilocularis* by Hisinger in 1799. Neither the generic name *Conchidium* nor the trivial name *biloculare*, as published by Linnaeus in the *Mus. Tess.*, possesses any availability in zoological nomenclature, since that work, being published prior to 1758, was published before the starting point of zoological nomenclature (Article 26).

The next occasion on which the generic name *Conchidium* appears is in 1768 in volume 3 of the 12th edition of the *Systema Naturae*. In that volume a trinominal system of nomenclature is used and accordingly the name *Conchidium* acquired no standing in zoological nomenclature in virtue of being so published. (I understand that the late Mr. R. Winckworth submitted an application supported by the Nomenclature Committee of the Malacological Society of London, asking the Commission to remove all doubts regarding the availability of names published in this volume by suppressing it for nomenclatorial purposes (Commission File Z.N.(S.)418). I feel strongly that this course is desirable since, until this is done, confusion is bound to arise at least so far as the Brachiopods are concerned.)

As already mentioned, Hisinger in 1799 gave the name *Anomia bilocularis* to the species described and figured by Linnaeus in 1753 under the name *Conchidium biloculare*. In doing so, Hisinger added the note that the species had previously been referred to other genera ; his note reads : " Helminth. Patellaria. Conchidium". He did not, however, either accept or adopt the name *Conchidium* and accordingly, under *Opinion* 5, he did not bestow any availability under the *Règles* on the pre-1758 name *Conchidium*. (See *Bull. zool. Nomencl.* **4** : 150 for the decision taken in Paris in 1948 to incorporate the substance of *Opinion* 5 in the *Règles*.)

The term " Conchidium " was next used by Wahlenberg in 1821, where in a general description of Septate Anomites reference is made to the group of the " Conchidiums". Wahlenberg used the word " Conchidium " as a specific trivial name, applying the specific name *Anomites conchidium* to the species which he was then describing. The fact that the word " conchidium " was there printed with a capital initial letter (as " Conchidium ") misled Sherborn (1926, *Index Anim.* (Pars secund) : 1444, line 11) into thinking that Wahlenberg had used this word as a generic name. (The description given by Wahlenberg and the references that he gave make it clear that the species which he was describing was *Anomia bilocularis* Hisinger, 1799.)

The next appearance in the literature of the name *Conchidium* was in 1848 when it was used by Bronn (**1** : 322). Like Hisinger (1799), Bronn (1848) did not reinforce this pre-1758 name by acceptance or adoption (as required by *Opinion* 5) and accordingly he conferred no availability upon this name.

At last in 1887 we come upon the first occason when the name *Conchidium* was published in conditions which satisfy the requirements of Article 25; this was by Oehlert, who (1) gave characters for the genus, (2) designated what he called " *Conchidium bilocularis* Linn." as the type species of this genus. As already explained, the pre-1758 name *Conchidium biloculare* possesses no status in zoological nomenclature, but that does not invalidate Oehlert's selection, as the type species of *Conchidium*, of the species represented by the foregoing invalid name, that is, *Anomia bilocularis* Hisinger, 1799.

Under the *Règles*, therefore, *Anomia bilocularis* Hisinger, 1799, is the type species of the genus *Conchidium*, and has been so accepted by all subsequent authors, some of whom, however, have continued to attribute this generic name to Linnaeus instead of to Oehlert.

II. History of the generic name " Pentamerus " Sowerby (J)., 1813

The generic name *Pentamerus* Sowerby (J.), 1813 (*Min. Conch.* **1** : 73*-76*) was published without a designated type species ; three nominal species were referred to this genus, of which the first was *Pentamerus knighti* (incorrectly spelt *knightii*), a new species, and the third *Pentamerus laevis*, also a new species.

In 1853, Davidson (: 97) selected *Pentamerus knighti* Sowerby (J.), 1813, to be the type species of the genus *Pentamerus* Sowerby, 1813. This is a valid selection under Rule (g) in Article 30 of the *Règles*, and accordingly this species is the type species of this genus.

In 1894 (: 236-240), Hall and Clarke revised the genera *Pentamerus* and *Conchidium* and, in doing so, selected *Pentamerus oblongus* Sowerby (J. de C.), 1839, as the type species of *Pentamerus* Sowerby (J.), 1813, either being ignorant of, or ignoring, the earlier selection by Davidson (1853) of *Pentamerus knighti* Sowerby (J.), 1813, as the type species of this genus. The nominal species *Pentamerus oblongus* Sowerby (J. de C.), 1839, was not (and by reason of the date of the publication of its name, could not have been) one of the nominal species originally included in the genus *Pentamerus* Sowerby, but it was regarded as such by those authors because, following Davidson (1867), they regarded the names *Pentamerus oblongus* Sowerby (J. de C.), 1839, and *Pentamerus laevis* Sowerby (J.), 1813, as names given to the adult and immature forms respectively of a single species, and the latter name had been cited by James Sowerby when he first published the name *Pentamerus*.

Although, as shown above, the action by Hall and Clarke was entirely contrary to the present *Régles*, it has been generally followed by subsequent authors, except that Schuckert and Le Vene (1929) and Schuckert and Cooper (1932) treated the nominal species *Pentamerus laevis* Sowerby (J.), 1813, and not *Pentamerus oblongus* Sowerby (J. de C.), 1839, as the type species of the genus *Pentamerus*.

III. The result which would follow from the strict application of the " Règles " in the present case

We have seen in the preceding Section that under the *Règles* (1) the type species of *Conchidium* Oehlert, 1887, is *Anomia bilocularis* Hisinger, 1799 (the species currently accepted as such) and that the type species of *Pentamerus* Sowerby (J.), 1813, is *Pentamerus knighti* Sowerby (J.), 1813 (a species which has never been accepted as such by any author, other than Davidson in 1853) and not *Pentamerus laevis* Sowerby (J.), 1813, or *Pentamerus oblongus* Sowerby (J. de C.), 1839, which are commonly accepted as forms of a single species and one or other of which is universally accepted as the type species of *Pentamerus*.

According to currently accepted taxonomic ideas, the species *Anomia bilocularis* Hisinger, 1799, and *Pentamerus knighti* Sowerby (J.), 1813, are congeneric with one another and are both referable to the genus *Pentamerus* Sowerby (J.), 1813. The acceptance of the application of the *Règles* in this way would inevitably lead to the greatest confusion : (1) the well-known generic name *Conchidium* would disappear as a synonym of *Pentamerus ;* (2) the species now referred to the genus *Pentamerus* would have to be placed in a genus with a different name ; (3) the names of the Order, Superfamily and Family would have to be changed to conform with the change in the generic name ; (4) stratigraphical literature would suffer also through the beds known as " Pentamerus beds " being characterised (as they would have to be) by some genus other than *Pentamerus*, while the genus which in future would have to be called by the name *Pentamerus* would be a genus occurring in a different horizon,

IV. Action by the International Commission on Zoological Nomenclature recommended

In view of the intolerable confusion both in systematic zoology and in stratigraphical literature to which the strict application of the *Règles* in the present case would at once give rise, I think it essential to ask the International Commission on Zoological Nomenclature to use its plenary powers in order to give valid force to current practice.

Before formulating my proposals for this purpose, I think that consideration should be given to the question whether *Pentamerus laevis* Sowerby (J.), 1813, or *Pentamerus oblongus* Sowerby (J. de C.), 1839, should be designated as the type species of the genus *Pentamerus* Sowerby (J.), 1813. The only advantage of selecting the first of these species as the type species is that it is one of the nominal species actually placed in the genus *Pentamerus* by Sowerby when he first published that generic name. Against this must be set the consideration that, although it is probable that the name *Pentamerus laevis* applies to an immature form of the species, the adult form of which was named *Pentamerus oblongus* by Sowerby (J. de C.) in 1839, there can be no certainty about this identification as James Sowerby's holotype of *laevis* cannot be traced and in consequence the name *Pentamerus laevis* Sowerby (J.) is at present a *nomen dubium*. If at some future date the holotype of *P. laevis* were to be found and it was shown that this name was applicable to some species not congeneric with P. *oblongus*, fresh confusion would arise in the use of the generic name *Pentamerus*. In these circumstances it appears to me that it would be most unwise to ask the Commission to use its plenary powers for the purpose of designating the doubtfully identifiable *P. laevis* as the type species of *Pentamerus* and that the only way of eliminating all risk of further confusion would be for the Commission to use its plenary powers to designate *P. oblongus* as the type species of this genus.

Having regard to the decision taken by the International Commission in Paris in 1948 (*Bull. zool. Nomencl.* **4** : 355) that *Opinions* should deal with all questions that arise in connection with any given case submitted, I think it right to draw attention to the following generic names which are involved in the synonymy of the name *Pentamerus* Sowerby : (1) *Gypidia* Dalman, 1828, is an uncalled-for substitute for the name *Pentamerus* Sowerby, of which therefore it is an objective synonym ; (2) the names *Trimurus* Caldwell, 1934, and *Miopentamerus* Alexander, 1936, which were both accidentally published in an attempt strictly to apply the *Règles* in the present case, are both *nomina nuda ;* (3) *Miopentamerus* Woods, 1937, which was published with *Pentamerus oblongus* Sowerby, 1839, as the sole cited species, which is thus its type species by monotypy, will become an objective synonym of *Pentamerus* Sowerby (J.), 1813, if, as I recommend below, the Commission under its plenary powers designates *P. oblongus* as the type species of *Pentamerus*.

In the light of the considerations set forth in the present application and, in particular, the need for avoiding the serious confusion which would result from the strict application of the *Règles* in the present case, I ask the International Commission on Zoological Nomenclature :—

(1) to rule :—

  (a) that neither Hisinger (1799) nor Bronn (1848) reinforced the pre-1758 generic name *Conchidium* by adoption or acceptance (*Opinion* 5) and therefore that that name acquired no rights in zoological nomenclature in virtue of having been published by either of those authors ;

  (b) that the term *Conchidium*, as published by Wahlenberg in 1821, was not used as a generic name and therefore that the alleged generic name *Conchidium* Wahlenberg, 1821, is a cheironym ;

  (c) that the generic name *Conchidium* ranks in zoological nomenclature from Oehlert (1887), the first author by whom it was published in conditions which satisfy the requirements of Article 25 of the *Règles ;*

(2) to use its plenary powers :—

  (a) to set aside all selections of type species for the genus *Pentamerus* Sowerby (J.), 1813, made prior to the proposed decision ;

  (b) to designate *Pentamerus oblongus* Sowerby (J. de C.), 1839, to be the type species of *Pentamerus* Sowerby, 1813 ;

  (c) to suppress for the purposes of the Law of Priority the trivial name *laevis* Sowerby (J.), 1813 (as published in the binominal combination *Pentamerus laevis*) *;*

(3) to place the under-mentioned generic names on the *Official List of Generic Names in Zoology :—*

  (a) *Conchidium* Oehlert, 1887 (type species, by original designation : *Anomia bilocularis* Hisinger, 1799) (gender of generic name : neuter) ;

  (b) *Pentamerus* Sowerby (J.), 1813 (type species, by designation under the plenary powers as proposed in (2) (b) above : *Pentamerus oblongus* Sowerby (J. de C.), 1839) (gender of generic name : masculine).

(4) to place the under-mentioned generic names and alleged generic names on the *Official Index of Rejected and Invalid Generic Names in Zoology :—*

  (a) the under-mentioned generic names proposed, under (1) (a) above, to be declared to possess no status in zoological nomenclature :—

    (i) *Conchidium* Hisinger, 1799 ;

    (ii) *Conchidium* Bronn, 1848 ;

(b) *Conchidium* Wahlenberg, 1821, proposed under (1) (b) to be declared a cheironym ;

(c) *Gypidia* Dalman, 1828 (an objective synonym of *Pentamerus* Sowerby, 1813) ;

(d) the under-mentioned *nomina nuda* :—

(i) *Trimurus* Caldwell, 1934 ;

(ii) *Miopentamerus* Alexander (née Caldwell), 1936 ;

(e) *Miopentamerus* Woods, 1937 (type species, by monotypy: *Pentamerus oblongus* Sowerby, 1839) (an objective synonym of *Pentamerus* Sowerby (J.), 1813, when, as recommended in (2) (b) above, the foregoing species is designated under the plenary powers as the type species of *Pentamerus* Sowerby) ;

(5) to place the under-mentioned trivial names on the *Official List of Specific Trivial Names in Zoology* :—

(a) *bilocularis* Hisinger, 1799 (as published in the binominal combination *Anomia bilocularis*) ;

(b) *knighti* Sowerby (J.), 1813 (as published in the binominal combination *Pentamerus knighti*, the trivial name then being incorrectly given as *knightii*) ;

(c) *oblongus* Sowerby (J. de C.), 1839 (as published in the binominal combination *Pentamerus oblongus*) ;

(6) to place the trivial name *laevis* Sowerby (J.), 1839 (as published in the binominal combination *Pentamerus laevis*), as proposed under (2) (c) above, to be suppressed under the plenary powers, on the *Official Index of Rejected and Invalid Specific Trivial Names in Zoology.*

ON THE PROPOSAL THAT THE PLENARY POWERS SHOULD BE USED TO CONSERVE THE NAMES "CONCHIDIUM" AND "PENTAMERUS" FOR THE FOSSIL BRACHIOPOD GENERA TO WHICH THOSE NAMES ARE CUSTOMARILY APPLIED

By J. K. St. JOSEPH, M.A., Ph.D.
(*Sedgwick Museum, Cambridge University, Cambridge*)

(Commission's reference Z.N.(S.)286)

(Extract from a letter dated 7th November, 1950)

I understand that Mrs. Elizabeth Alexander has submitted to the International Commission on Zoological Nomenclature an application concerning the names of the fossil brachiopod genera *Conchidium* auctt. and *Pentamerus* auctt.

Since I have also worked on these genera and have had an opportunity of reading through Mrs. Alexander's statement in the form in which it has been submitted to the Commission, I write to say that I am entirely in agreement with the principles of the case as she has outlined them, and that I hope that action may be taken to render valid the usage of these generic names in the way they are customarily used at present.

ON DR. F. ELIZABETH ALEXANDER'S PROPOSAL FOR THE USE BY THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE OF ITS PLENARY POWERS TO VALIDATE CURRENT USAGE OF THE GENERIC NAME " PENTAMERUS " SOWERBY, 1813 (CLASS BRACHIOPODA)

By THOMAS W. AMSDEN
(*Department of Geology, The Johns Hopkins University, Baltimore, Maryland, U.S.A.*)

Commission's reference Z.N.(S.)286)

(Extract from a letter dated 31st October, 1950)

I received your letter of 24th October with the enclosed copy of the application by Dr. Elizabeth Alexander pertaining to the names *Conchidium* and *Pentamerus*. The problem concerned with these generic names is a complicated one and it seems to me that Dr. Alexander has proposed the best possible solution.

PURCHASED
21 APR 1951

ON DR. F. ELIZABETH ALEXANDER'S PROPOSAL FOR THE USE BY THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE OF ITS PLENARY POWERS TO VALIDATE CURRENT USAGE OF THE GENERIC NAME " PENTAMERUS " SOWERBY, 1813 (CLASS BRACHIOPODA)

By G. ARTHUR COOPER
(*Curator, Invertebrate Paleontology and Paleobotany, Smithsonian Institution, U.S. National Museum, Washington, D.C., U.S.A.*)

(Commission's reference Z.N.(S.)286)

(Extract from a letter dated 30th November 1950)

Dr. Helen Muir-Wood, who is visiting here at the U.S. National Museum, turned over to me your letter concerning *Conchidium* and *Pentamerus*. As far as I am personally concerned. I would be agreeable to the Commission using its plenary powers to designate *Pentamerus oblongus* Sowerby, 1839, as type species of *Pentamerus* and to suppress the name *Pentamerus laevis*, which has priority over *P. oblongus*.

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21 APR 1951

Edited by

FRANCIS HEMMING, C.M.G., C.B.E.

Secretary to the International Commission on Zoological Nomenclature

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BULLETIN OF ZOOLOGICAL NOMENCLATURE

Volume 2, Part 4 (pp. 97-128)
20th April 1951

NOTICES PRESCRIBED BY THE INTERNATIONAL CONGRESS OF ZOOLOGY

The following notices are given in pursuance of decisions taken, on the recommendation of the International Commission on Zoological Nomenclature (see 1950, *Bull. zool. Nomencl.* **4** : 51–56, 57–59), by the Thirteenth International Congress of Zoology, Paris, July 1948 (see 1950, *Bull. zool. Nomencl.* **5** : 5–13, 131).

(a) Date of commencement by the International Commission on Zoological Nomenclature of voting on applications published in the " Bulletin of Zoological Nomenclature "

NOTICE is hereby given that normally the International Commission will start to vote upon applications published in the *Bulletin of Zoological Nomenclature* on the expiry of a period of six calendar months from the date of publication in the *Bulletin* of the applications in question. Any specialist who may desire to comment upon any of the applications published in the present Part (vol. 2, Part 4) of the *Bulletin* is accordingly invited to do so in writing to the Secretary to the Commission, as quickly as possible and in any case, in sufficient time to enable the communication in question to reach the Secretariat of the Commission before the expiry of the six-month period referred to above.

Notices prescribed by the International Congress of Zoology (*continued*).

(b) Notice of the possible use by the International Commission on Zoological Nomenclature of its plenary powers in certain cases

Notice is hereby given that the possible use by the International Commission on Zoological Nomenclature of its plenary powers is involved in applications published in the present Part of the *Bulletin of Zoological Nomenclature* (Vol. 2, Part 4) in relation to the following names :—

(1) *Ligia* Weber, 1795, *Ligia* Fabricius, 1798, and *Carcinus* Leach, 1814 (Class Crustacea, Order Decapoda) (Z.N.(S.)209).

(2) *Capsus* Fabricius, 1803 (Class Insecta, Order Hemiptera) (Z.N.(S.)211).

(3) the names *quadratus* Fabricius, 1787, and *albicans* Bosc, [1801–1802], as alternative trivial names for the Sand Crab (Class Crustacea, Order Decapoda) (Z.N.(S.)271).

(4) *Tettigonia* and *Acrida :* proposed validation of, as from Linnaeus, 1758 (application submitted under *Opinion* 124) (Z.N.(S.)328).

2. In accordance with the procedure agreed upon at the Session held by the International Commission on Zoological Nomenclature in Paris in 1948 (see 1950, *Bull. zool. Nomencl.* **4** : 56), corresponding Notices have been sent to the journals " Nature " and " Science."

FRANCIS HEMMING,
Secretary to the International Commission on Zoological Nomenclature.

Secretariat of the
International Commission on
Zoological Nomenclature,
28, Park Village East, Regent's Park,
London, N.W.1, England.

10*th April* 1951.

PROPOSED VALIDATION UNDER THE PLENARY POWERS OF THE GENERIC NAMES "LIGIA" FABRICIUS, 1798, (CLASS CRUSTACEA, ORDER ISOPODA) AND "CARCINUS" LEACH, 1814 (CLASS CRUSTACEA, ORDER DECAPODA)

By the late ALIDA M. BUITENDIJK AND L. B. HOLTHUIS
(*Rijksmuseum van Natuurlijke Historie, Leiden, The Netherlands*)

(Commission's reference Z.N.(S.)209)

The object of the present application is to secure authority from the International Commission on Zoological Nomenclature for the continued use of the well-known generic names *Ligia* Fabricius, 1798 (Class Crustacea, Order Isopoda) and *Carcinus* Leach, 1814 (Class Crustacea, Order Decapoda) in their accustomed sense.

Rathbun pointed out in 1904 (*Proc. biol. Soc. Wash.* **17** : 172), that the generic name *Ligia* Weber, 1795 (*Nomencl. ent.* : 92) preoccupies, and therefore renders invalid, the generic name *Ligia* Fabricius, 1798 (*Suppl. Ent. syst.*: 296, 301). Weber in his list of names—he gave no descriptions—was the first author to publish the name *Ligia*. In using this name, he cited with it the name *Cancer*, which he placed in brackets (parentheses), to indicate that the species placed by him in the genus *Ligia* were referred by Fabricius to the genus *Cancer* Linnaeus. Under the generic name *Ligia*, Weber cited three specific names, namely *Ligia inflexa*, *Ligia 3-cuspitata* and *Ligia granaria*. The first two of these specific names were at that time *nomina nuda*, but the trivial name (*granaria*) comprised in the third of these names had already been published, in the binominal combination *Cancer granarius*, by Herbst in 1783 (*Versuch einer Naturgeschichte der Krabben und Krebse* **1** : 107, pl. 2, fig. 28); this name had been referred to also by Fabricius in 1793 (*Ent. syst.* **2** : 442). We see therefore that at the time when Weber first published the generic name *Ligia*, he cited under that name the trivial name of only one previously described and named species, viz. *Cancer granarius* Herbst, 1783. That species is therefore the type species of the genus *Ligia* Weber, 1795, by monotypy.

The nominal species *Cancer granarius* Herbst, 1783, was based upon the "langwerpig-vierkante Zee-Krabbe" of Slabber (1769–1778, *Naturkuundige Verlustigingen* : 159, pl. 18, Fig. 1), since Herbst's figure is a copy of that given by Slabber, and his description of this species is an abbreviated translation of Slabber's Dutch text. It is now known that Slabber's "species" (and therefore Herbst's) is merely the megalopa stage of the common shore crab *Carcinus maenas* (Linnaeus, 175 (= *Cancer maenas* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 627). From the taxonomic standpoint, the genus *Ligia* Weber, 1795, is identical with the genus *Carcinus* Leach, 1814, and accordingly the name *Carcinus* Leach is a subjective junior synonym of, and falls to, the name *Ligia* Weber. After Weber (1795) the generic name *Ligia* was never used for a genus of Brachyura. On the other hand the generic name *Carcinus* came into general use for the extremely common shore crab (*Cancer maenas* Linnaeus) from the coasts of the North Atlantic.

The name *Ligia* Fabricius, 1798, was published by that author for a genus of Isopods, represented by *Oniscus oceanicus* Linnaeus, 1767 (*Syst. Nat.* (ed. 12) **1** : 1061), which was selected as the type species of this genus by Latreille in 1810 (*Consid. gén. Crust. Arach. Ins.* : 423). It has ever since been generally used by authors in this sense up to the time of the publication of Rathbun's paper in 1904. Since then, it has been discarded by some American authors in favour of the name *Ligyda* Rafinesque, 1815 (*Analyse Nature* : 101). This name is quite unfamiliar to European authors, while at least one American author (W. G. van Name), who for a time used this name later (1936) reverted to the name *Ligia* Fabricius in his monographic work, " The American Land and Fresh-water Isopod Crustacea " (*Bull. Amer. Mus. nat. Hist.* **71**).

In the light of the considerations advanced above, it is considered most advisable—in view of the enormous confusion which otherwise is inevitable —that the Commission should suppress, under its plenary powers, the generic name *Ligia* Weber, 1795, and should validate the generic name *Ligia* Fabricius, 1798, with *Oniscus oceanicus* Linnaeus, 1767, as its type species (by subsequent selection by Latreille (1810)) and should place this name, so validated, on the *Official List of Generic Names in Zoology*.

The adoption of the foregoing proposal, by eliminating the name *Ligia* Weber, 1795, will serve the further important purpose of removing one of the two causes which at present invalidate the well-known and still commonly used generic name *Carcinus* Leach, 1814 (*in* Brewster's *Edinburgh Ency.* **7**: 390) (type species, by monotypy : *Cancer maenas* Linnaeus, 1758). Before however the name *Carcinus* Leach could become the valid generic name for the common shore crab, it would be necessary for the Commission to use its plenary powers to suppress the earlier name *Carcinus* Latreille, 1796 (*Precis Caract. génér. Ins.* : 197), which, as pointed out by Rathbun in 1897 (*Proc. biol. Soc. Wash.* **11** : 164), at present makes Leach's generic name *Carcinus* an invalid junior homonym. On the authority of Stebbing (1888, *Rep. Voy. Challenger*, Zool. **29** : 1669), we may conclude that the genus *Carcinus* Latreille, in the original description of which no species was cited by name, is synonymous with *Gammarus* Fabricius, 1775 (*Syst. Ent.* : 418), and thus belongs to the Amphipoda. The name *Carcinus* Latreille has never been used by any subsequent author, and its suppression under the plenary powers would therefore encounter no difficulty whatever.

Rathbun's re-discovery (1897) of the long-neglected name *Carcinus* Latreille, 1796, and, more particularly, her substitution (1897) of the new generic name *Carcinides* Rathbun for the generic name *Carcinus* Leach for the common shore crab, led to a break in the uniformity of the practice of carcinologists in naming the common shore crab ; some authors (*e.g.*, Pesta; Monod) followed Rathbun in discarding the name *Carcinus* Leach in favour of the name *Carcinides* Rathbun, 1897 ; while others (*e.g.*, Bouvier, Lebour, Gurney, Balas) continued to use the name *Carcinus* Leach, notwithstanding the fact that, as rightly pointed out by Rathbun, this name is invalid. That, in spite of this, the name *Carcinus* Leach has continued to be used by the great majority of carcinologists—only a few using the name *Carcinides*—is striking evidence of the general reluctance to abandon the use of this name.

In order to prevent the great confusion which would follow the strict application of the *Règles* in the present case, and to put an end to such confusion as has already arisen through the adoption by a limited number of workers, of the changes recommended by Rathbun, we ask the International Commission on Zoological Nomenclature :

(1) to use its plenary powers :—

(a) to suppress the under-mentioned generic names both for the purposes of the Law of Priority and for those of the Law of Homonymy :—

(i) *Ligia* Weber, 1795 ;

(ii) *Carcinus* Latreille, 1796 ;

(b) to validate the under-mentioned generic names :—

(i) *Ligia* Fabricius, 1798 ;

(ii) *Carcinus* Leach, 1814 ;

(2) to place the under-mentioned generic names on the *Official List of Generic Names in Zoology*, with the type species severally specified below :—

(a) *Ligia Fabricius*, 1798 (type species, by selection by Latreille, 1810 : *Oniscus oceanicus* Linnaeus, 1767) (gender of generic name : feminine) ;

(b) *Carcinus* Leach, 1814 (type species, by monotypy : *Cancer maenas* Linnaeus, 1758) (gender of generic name : masculine) ;

(3) to place the under-mentioned generic names, proposed in (1) (a) above to be suppressed under the plenary powers, on the *Official Index of Rejected and Invalid Generic Names in Zoology :—*

(a) *Ligia* Weber, 1795 (suppressed under (1) (a) (i) above) ;

(b) *Carcinus* Latreille, 1796 (suppressed under (1) (a) (ii) above) ;

(c) *Carcinides* Rathbun, 1897 (an objective synonym of *Carcinus* Leach, 1814) ;

(4) to place the under-mentioned trivial names on the *Official List of Specific Trivial Names in Zoology :—*

(a) *maenas* Linnaeus, 1758 (as published in the binominal combination *Cancer maenas*) ;

(b) *oceanicus* Linnaeus, 1767 (as published in the binominal combination *Oniscus oceanicus*).

ON THE GENERIC NAME "LIGIA" AS USED BY WEBER, 1795, AND BY FABRICIUS IN 1798 (CLASS CRUSTACEA, ORDERS DECAPODA AND ISOPODA RESPECTIVELY)

By POUL HEEGAARD
(*University of Copenhagen, Denmark*)

(Commission's reference Z.N.(S.)209)

In March, 1949, I submitted to the International Commission on Zoological Nomenclature an application that it should use its plenary powers in order to prevent the confusion which would be inevitable if the *Règles* were to be strictly applied to the generic name *Ligia*, in view of the fact that the name *Ligia* Fabricius, 1798, is an invalid junior homonym of the name *Ligia* Weber, 1795, for this would mean that the name *Ligia*, which for 150 years has been almost universally applied to an extremely well-known genus of Isopods, could no longer be applied in this way.

I have been informed by the Secretary to the International Commission that in January, 1946, the Commission received an identical application from Dr. A. M. Buitendijk and Dr. L. B. Holthuis, of the Rijksmuseum van Natuurlijke Historie, Leyden, and that this application will be published as soon as possible in the *Bulletin of Zoological Nomenclature*, with a view to an early decision being taken by the International Commission on this important question. The Secretary to the Commission has communicated to me a copy of the joint application prepared by Dr. Buitendijk and Dr. Holthuis, with which I find myself in complete agreement. Accordingly, instead of myself submitting an application on this case, I desire fully to associate myself with and to support the joint application referred to above.

PROPOSED USE OF THE PLENARY POWERS TO VARY THE TYPE SPECIES OF "CAPSUS" FABRICIUS, 1803 (CLASS INSECTA, ORDER HEMIPTERA) IN ORDER TO VALIDATE EXISTING NOMENCLATORIAL PRACTICE

By W. E. CHINA, Sc.D.
(*Deputy Keeper, Department of Entomology, British Museum* (*Natural History*), *London*)

(Commission's reference Z.N.(S.)211)

The object of the present application is to seek the help of the International Commission on Zoological Nomenclature in preventing the confusion which would inevitably arise if the *Règles* were strictly applied in the case of the generic name *Capsus* Fabricius, 1803 (*Syst. Rhyng.* : 241) (Class Insecta, Order Hemiptera).

The relevant facts are as follows : The genus *Capsus* Fabricius, as recognised by the majority of hemipterists, is based upon the species included in it by Fabricius as *Capsus ater* (=*Cimex ater* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1**: 447). This species is treated as the type species of this genus, Reuter, Kirkaldy and other authors having claimed that Fabricius himself so designated this species in 1803. Fabricius did not, however, designate any type species in the work under consideration and it is necessary therefore to ascertain which of the species included in this genus in 1803 was first subsequently selected as the type species of the genus.

The first type selection made for this genus was that made by Latreille in 1810 (*Consid. gén. Crust. Arach. Ins.* : 433), the species so selected being cited as *Cimex spissicornis* Fabr., i.e., the species originally described as *Cimex spissicornis* Fabricius, 1777 (*Gen. Ins.* : 300). The species so named is currently accepted as being identical with *Cimex meriopterus* Scopoli, 1763 (*Ent. carn.* : 131).

The acceptance of this species as the type species of the genus *Capsus* Fabricius would involve the transfer of the well-known generic name *Capsus* from the sub-family now known as CAPSINAE to the sub-family now known as CYLLECORINAE, the introduction of the name MIRINAE for the sub-family now known as CAPSINAE, and the replacement of the genus *Capsus*, as at present understood, by the genus *Rhopalotomus* Fieber, 1858 (*Wien. ent. Monats.* **2** : 307).

The acceptance of the foregoing changes would undoubtedly lead, at the generic level, to greater confusion than uniformity. Further, such a change in the meaning to be attached to the generic name *Capsus* would involve the loss of a group name based upon the name of this genus. This would be very regrettable since the term "Capsid" for the family is well established among economic entomologists in Britain. In order to prevent the confusion which would follow the strict application of the *Règles* in this case, I ask the International Commission on Zoological Nomenclature :—

(1) to use its plenary powers :—
  (a) to set aside all selections of type species for the genus *Capsus* Fabricius, 1803, made prior to the proposed decision ;
  (b) to designate *Cimex ater* Linaeus, 1758, to be the type species of the foregoing genus ;

(2) to place the generic name *Capsus* Fabricius, 1803 (type species, by designation under the plenary powers, as proposed in (1) (b) above : *Cimex ater* Linnaeus, 1758) on the *Official List of Generic Names in Zoology* (gender of generic name : masculine) ;

(3) to place the trivial name *ater* Linnaeus, 1758 (as published in the binominal combination *Cimex ater*) on the *Official List of Specific Trivial Names in Zoology.*

REQUEST FOR VIEWS OF SPECIALISTS ON THE QUESTION WHETHER THE SUBSTITUTION, AS REQUIRED BY THE "RÈGLES", OF THE NAME "QUADRATUS" FABRICIUS, 1787, FOR THE NAME "ALBICANS" BOSC, [1801-1802], AS THE TRIVIAL NAME OF THE SAND CRAB (CLASS CRUSTACEA, ORDER DECAPODA) WOULD GIVE RISE TO CONFUSION OR INSTABILITY

By FRANCIS HEMMING, C.M.G., C.B.E.
(*Secretary to the International Commission on Zoological Nomenclature*)

(Commission's reference Z.N.(S.)271)

At its Session held in Paris in 1948, the International Commission on Zoological Nomenclature, after reviewing the information available, decided to cancel its earlier *Opinion* 13 as being " incomplete and, in part, incorrect." At the same time the Commission agreed upon the adoption of *Opinions* on all the issues raised in *Opinion* 13, except that regarding the trivial name to be used for the Sand Crab, which, as explained below, was reserved for further consideration.

2. On this question the Commission gave a ruling that, under the *Règles*, the correct trivial name for this species was *quadratus* Fabricius, 1787 (as published in the binominal combination *Cancer quadratus*) and not the name *albicans* Bosc, [1801–1802] (as published in the binominal combination *Ocypoda albicans*), as had incorrectly been stated in *Opinion* 13. The Commission decided, however, before finally rendering an *Opinion* in this sense, to ascertain from interested specialists whether the substitution of the name *quadratus* Fabricius for the name *albicans* Bosc as the trivial name of the Sand Crab would be likely to give rise to " confusion and instability." The Commission placed on record that, if specialists were to consider that the adoption for this species of the trivial name *quadratus* Fabricius would lead to these results, it would forthwith use its plenary powers for the purpose of suppressing the foregoing name, thus validating the name *albicans* Bosc.

3. A full account of the considerations which led up to the foregoing decisions is given in the *Official Record of Proceedings* of the International Commission at its Paris Session, 14th Meeting, Conclusion 53 (see 1950, *Bull zool. Nomencl.* **4** : 573–580).

4. In accordance with the procedure described above, specialists in this group are particularly requested to send to the International Commission as soon as possible, statements describing current nomenclatorial practice in this matter and setting out their views on the question of the possible use of the plenary powers in this case. Such statements should be addressed to the Secretary to the International Commission on Zoological Nomenclature at the Secretariat of the Commission (28 Park Village East, Regent's Park, London, N.W.1, England).

PROPOSED USE OF THE PLENARY POWERS TO VALIDATE THE TERMS "TETTIGONIA" AND "ACRIDA" (CLASS INSECTA, ORDER ORTHOPTERA) AS SUBGENERIC NAMES AS FROM LINNAEUS, 1758 (APPLICATION SUBMITTED IN RESPONSE TO THE INVITATION GIVEN IN 'OPINION' 124)

By ASHLEY B. GURNEY

(*Bureau of Entomology and Plant Quarantine, Agricultural Research Administration, United States Department of Agriculture, Washington. D.C., U.S.A.*)

(Commission's reference Z. N.(S.)328)

The following application is hereby submitted to the International Commission on Zoological Nomenclature : (1) that *Tettigonia* Linnaeus be accepted as of subgeneric value as from 1758 (*Syst. Nat.* (ed. 10) **1** : 429), under the plenary powers, and that it be added to the *Official List of Generic Names in Zoology*, with *Gryllus viridissimus* Linnaeus, 1758, as type species ; (2) that *Acrida* Linnaeus be accepted as of subgeneric value as from 1758 (*Syst. Nat.* (ed. 10) **1** : 427), under the plenary powers, and that it be added to the *Official List of Generic Names in Zoology*, with *Gryllus turritus* Linnaeus, 1758, as type species.

1. Tettigonia

Tettigonia is one of six subdivisions[1] of *Gryllus* recognised by Linnaeus, 1758, and used by him in a sense corresponding to subgenera of modern workers. Although this term was invalidated as of 1758 by *Opinion* 124 (1936), most taxonomic workers in the Orthoptera use the generic name *Tettigonia* Linnaeus, and the great majority of taxonomists and general entomologists utilise the orthopterous name TETTIGONIIDAE.[2] This family name dates from the supergeneric group Tettigoniae of Stoll, 1787 (*Spectres*, *Mantes*, etc. T. 1, Amsterdam), which was given the now accepted family ending *-idae* by Krauss, 1902 (*Zool. Anz.* **25** : 538). The only other family names that have been widely ised in the same sense are LOCUSTIDAE and PHASGONURIDAE.[3] The former is obviously unavailable here because *Locusta* is restricted to another family by *Opinion* 158 (1945). The name PHASGONURIDAE dates from Kirby, 1891 (*Trans. ent. Soc. Lond.* **1891** : 405), but has been used less generally than TETTIGONIIDAE, and in recent years relatively little, partly becuase of the assumption on the part of many workers that *Phasgonura* Stephens, 1835 (*Ill. Brit. Ent.*, Mand. **6** : 15) (Type species : *Gryllus viridissimus* Linnaeus) is a synonym of *Tettigonia* Linnaeus, 1758 (see discussion of type species below). Validation of *Tettigonia* Linnaeus would permit the continued general use of the family name TETTIGONIIDAE, thus avoiding further confusion in the nomenclature of an Order, the family names of which were formerly subject to frequent changes, but which in recent years have gradually become more standardised. The practice of working orthopterists indicates the desirability of validating *Tettigonia* Linnaeus.

There are differences of opinion concerning the species to be accepted as the type species of *Tettigonia* Linnaeus, and in the event of *Tettigonia* being validated, it is important that the type species be fixed beyond further argument. The use of the plenary powers may be necessary to fix as the type species the species which will create least confusion in the nomenclature of the Orthoptera. The majority of current workers accept *Gryllus viridissimus* Linnaeus as the type species, but I agree with Roberts, 1941 (*Trans. amer. ent. Soc.* **67** : 30-31) that the first definite selection was that of Kirby, 1890 (*Sci. Proc. Roy. Dublin Soc.* **6** : 481), *Gryllus verrucivorus* Linnaeus. If the latter selection is accepted, as should be done under a strict interpretation of the Rules, the genus *Decticus* Serville, 1831 (*Ann. Sci. nat.* Paris **22** : 159) (Type species : *Gryllus verrucivorus* Linnaeus) would fall as a synonym of *Tettigonia* Linnaeus, at the same time invalidating the well-known subfamily name DECTICINAE.

Uvarov, 1923 (*Trans. ent. Soc. Lond.* **1923** : 493) and others have considered that Leach, 1815 (*Edinburgh Encyclopedia* : 120) selected *Gryllus viridissimus* Linnaeus as the type species of *Tettigonia.* Since Leach merely listed the species with no indication of type significance that I have discovered, type selection is not evident. Karny, 1908 (*Zool. Annalen, Z. f. Ges. Zool.* **2** : 202-208) has argued that *G. viridissimus* became the type species through the removal of all the other 16 species originally placed in *Tettigonia* by Linnaeus, 1758. Although selection of type species by elimination was once an accepted practice, it is believed to have no standing under present Rules except in the case of a genus containing two species when one is removed to be type species of another genus (*Opinion* 6, 1910) (Also see *Opinion* 62, 1914). Rehn, 1901 (*Canad. Ent.* **33** : 121) also reasoned by the method of elimination that *G. viridissimus* is the type species of *Tettigonia*, but his conclusion is so definite that it clearly constitutes a type selection, the first clear cut selection of that species, regardless of the reasoning involved.

Kirby, 1890 (*l.c.*) reviewed the originally included species of *Tettigonia* Linnaeus and by the method of elimination concluded that *G. verrucivorus* should be the type species. (Quotation from Kirby : "—— which leaves *G. verrucivorus* as the type of *Tettigonia.*") While not accepting Kirby's method of arriving at a conclusion on the type species of *Tettigonia*, I believe, however, that his concluding statement, quoted above, constitutes a type selection, irrespective of the method used in reaching that conclusion.

In the interest of nomenclatorial stability, it appears advisable to fix *Gryllus viridissimus* Linnaeus, 1758, as the type species of *Tettigonia* Linnaeus, 1758.

2. Acrida

Acrida is the second subdivision of *Gryllus* recognised by Linnaeus, 1758. It is of prime importance as the basis of the family name ACRIDIDAE, and, since the acridids include a very large number of highly economic locusts and shorthorned grasshoppers, it is very desirable that stability of the family name be achieved. A great majority of both systematists and economic entomologists now use the name ACRIDIDAE,[2] which is derived from the supergeneric group *Acridites* of Latreille, 1825 (*Fam. Nat. Régne Anim.* : 414-416). All other names for the family are unsatisfactory because they lack priority, have had only a small amount of usage, or because they have been applied to different zoological groups in a manner that leads to confusion. For example, the name LOCUSTIDAE dates from the group *Locustariae* of Latrille, 1804 (*Hist. Nat. Crust. Ins.* **12** : 127-136), but at that time it was applied to katydids or long-horned grasshoppers (the TETTIGONIIDAE of most current usage). In 1829, Stephens (*Brit. Ins.* : 301) applied the name LOCUSTIDAE to grasshoppers and locusts for the first time, and it has recently been done by Comstock, 1930 (*Introd. Ent.* : 252), Essig, 1942 (*College Ent.* : 90) and several others, though the name ACRIDIDAE is used by most modern taxonomists.[3] To add to the confusion, Comstock, 1930 (*l.c.* : 254) used LOCUSTINAE for the subfamily of " spine-throated locusts," though the genus *Locusta* is not included in that subfamily, actually belonging to the group usually called the OEDIPODINAE.

A family name based on *Acrydium* has also been used, but *Acrydium* has been almost universally[5] applied to the grouse-locusts (TETRIGIDAE), and so ACRYDIIDAE would be confusing if applied to locusts and grasshoppers.

In order for *Acrida* to be available as a basis for the family name ACRIDIDAE, it appears necessary that it be dated from Linnaeus, 1758, as that generic name was not subsequently brought into general use by orthopterists until the time of Stål, 1873 (*Rec. Orthopt.* **1** : 88, 95-100). Between the time of Linnaeus and Stål, Kirby, 1825 (*Zool. J.* **1** : 432) and Curtis, 1825 (*Brit. Ent.* **2** : 82) applied the name *Acrida* to katydids rather than to short-horned grasshoppers (see Roberts, *l.c.* : 5) so that it becomes essential to establish the validity of *Acrida* as from Linnaeus, 1758. Krauss, 1902 (*Zool. Anz.* **25** : 541) first selected a type species for *Acrida* Linnaeus : *Gryllus turritus* Linnaeus, 1758.

Footnotes

1. Regarding the other sub-divisions of *Gryllus* Linnaeus, 1758 : *Locusta* was added to the *Official List of Generic Names in Zoology* under *Opinion* 158 (1945) ; *Bulla* was suppressed as a homonym of *Bulla* Linnaeus, 1758 (*Syst. Nat.* (ed. 10) **1** : 725) (Mollusca) under the amendment to Article 34 of the International Code adopted at Padua, 1930 (referred to in *Opinion* 124, 1936) ; *Mantis*, as of 1767 (*Syst. Nat.* (ed. 12) **1** : 689), was added to the *Official List* under *Opinion* 149 (1943). Although, under the existing Rules, *Acheta* was not at any time validly proposed by Linnaeus, this generic name is available for use, dating from Fabricius, 1775 (*Syst. Ent.* : 279). Curtis, 1830 (*Brit. Ent.* **7** : 293) selected *Gryllus domesticus* Linnaeus, as the type species of the genus " *Acheta* Fab., Lea., Sam," this being the first valid selection, and it establishes *Acheta* in the same sense as formerly used, dating from Linnaeus, 1758. Karny, 1937 (*Gen. Insectorum* fasc. 206, Gryllacrididae : 213) listed *Acheta* Fabricius, 1775 (*nec.* Linnaeus) as a synonym of *Schizodactylus* Brullé, 1835, but that is a misapplication of the name, since *Acheta* has priority. Furthermore, no type selection of *Gryllus monstrosus* Drury, 1773, the type species of *Schizodactylus* and in included in *Acheta* by Fabricius, 1775 (*Syst. Ent.* : 826), prior to 1830 has come to my attention. (Linnaeus, 1767, used *Mantis* in a generic sense, *Acrida* and *Acheta* in a subgeneric sense.)

2. The general use of TETTIGONIIDAE and ACRIDIDAE is evidence by the utilisation of these family names in the volumes of the *Zoological Record* since 1922 (27 years). Both are the names currently used by the Bureau of Entomology and Plant Quarantine, in the United States, and the Commonwealth Institute of Entomology, for the British Commonwealth. The guidance in systematic entomology and large number of routine identifications furnished by these two

organizations constitute a great influence on the nomenclatorial usage of entomologists as a whole. Specialists in three outstanding centres of systematic work on Orthoptera, namely, London, Philadelphia and Paris, use the above family names. They also appear in the handbook, " Locusts and Grasshoppers," published by B. P. Uvarov in 1928 and are familiar to nearly all economic workers on grasshoppers.

ACRIDIDAE is the family name used in correspondence from the Anti-Locust Research Centre, in London, which organization is now co-ordinating most of the international work on large-scale grasshopper control and research.

Finally, a survey of published work by leading orthopterists throughout the world during the past fifteen years shows that the preponderance of usage favours the family names TETTIGONIIDAE and ACRIDIDAE.

3. Although the Rules are definite on certain aspects of family names, there is need for further clarification. (See Sabrosky, 1947, *Amer. Naturalist* **81** : 153-160). (Articles 4 and 5 of the International Rules of Zoological Nomenclature, and *Opinions* 133 (1936) and 141 (1943) of the International Commission on Zoological Nomenclature concern family names.)

4. China and Fannah, 1946 (*Ann. Mag. nat. Hist.* (11) **12** : 707-712, 1945) pointed out the necessity of using TETIGONIA Geoffroy, 1762, under the rules, and recognized that under paragraph 1(d) of *Opinion* 147 (1943) the slight difference in spelling (one or two t's) in Linnaeus' and Geoffroy's names permits only one name to be valid.

5. Roberts, 1941 (*Trans. amer. ent. Soc.* **67** : 24) has recently shown that, contrary to the traditional orthopterological practice, *Acrydium* Geoffroy, 1762, actually applies to a zoological unit included in the ACRIDIDAE rather than the TETRIGIDAE.

ON DR. ASHLEY B. GURNEY'S PROPOSAL THAT THE NAME " TETTIGONIA " SHOULD BE VALIDATED AS FROM LINNAEUS, 1758, AS OF SUBGENERIC STATUS IN THE ORDER ORTHOPTERA (CLASS INSECTA), BY THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE UNDER ITS PLENARY POWERS

By W. E. CHINA, Esq., M.A., Sc.D.
(*Deputy Keeper, Department of Entomology, British Museum (Natural History), London*)

(Commission's reference Z.N.(S.)328)

(Extract from a letter dated 11th January, 1949)

No confusion would result in the nomenclature of the Hemiptera from the disappearance of *Tetigonia* Geoffroy, 1762 (either by invalidation or as a homonym of *Tettigonia* L., 1758). The only change in the nomenclature resulting from such a disappearance would be the restoration of the well-known generic name *Ledra* Fabricius, 1803, type species of the family LEDRIDAE. This would, of course, be all to the good. This fact is set out in China and Fennah, October, 1945, *Ann. Mag. nat. Hist.* (11) **12** : 711-712 : " By the above dispositions the only nomenclatorial change in Hemiptera which would result from any future invalidation of *Tetigonia* Geoffroy or from any validation of *Tettigonia* L. (Orthoptera) would be the restoration of the generic name *Ledra*."

ON THE PROPOSED VALIDATION OF THE GENERIC NAME "TETTIGONIA" LINNAEUS, 1758, IN THE ORDER ORTHOPTERA (CLASS INSECTA)

By R. G. FENNAH

(*Imperial College of Tropical Agriculture, St. Augustine, Trinidad*)

(Commission's reference Z.N.(S.)328)

(Extracts from letters dated 12th and 30th January, 1949)

A. Extract from letter dated 12th January, 1949.

I understand that Dr. China has supplied you with the technical details regarding the change which will occur in Hemiptera, if *Tettigonia* of Linnaeus is validated.

The consequential suppression of *Tetigonia* Geoffroy would undoubtedly be welcomed by hemipterists, as the generic name *Ledra*, which was displaced by China & Fennah in 1945, is well-known and long established. Moreover, the combination *Tetigonia aurita* (Linnaeus) is still novel and has not entered into literature, apart from the original proposals, as far as I know.

B. Extract from letter dated 30th January, 1949.

There is one trivial item worthy of mention when you are writing up the case, and that is the generic name *Tetigonia* Fourcroy, which was not mentioned in the China & Fennah paper.

Tetigonia Geoffroy, 1762, is, as you say in your letter of 14th January, invalid under the decision of the Paris Congress. But the generic name was cited and validated by Fourcroy, 1785, *Ent. paris.* **1** : 193, with the original spelling.

It would accordingly be advisable to make it quite plain that *Tettigonia* with two " t's " is, for the purposes of judging preoccupation of the name, the same as *Tetigonia* with one " t." This would squarely place Fourcroy's *Tetigonia* in homonymy.

ON DR. ASHLEY B. GURNEY'S PROPOSAL THAT THE NAMES "TETTIGONIA" AND "ACRIDA" SHOULD BE VALIDATED, AS FROM LINNAEUS, 1758, BY THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE UNDER ITS PLENARY POWERS

By B. P. UVAROV, C.M.G., D.Sc.
(*Anti-Locust Research Centre and British Museum* (*Natural History*), *London*)

(Commission's reference Z.N.(S.)328)

The proposal that *Tettigonia* Linnaeus, 1758, be accepted as of subgeneric value under the plenary powers, and that it be added to the *Official List* with *Gryllus viridissimus* Linnaeus, 1758, as type species, is supported and it is considered that such action will eliminate confusion.

Tetigonia Geoffroy, 1762, should be definitely rejected as a homonym of *Tettigonia* Linnaeus, 1758, as this action would prevent further confusion.

The proposal that *Acrida* Linnaeus, 1758, be accepted as of subgeneric value, under the plenary powers and that it be added to the *Official List* with *Gryllus turritus* Linnaeus, 1758, as type species, is supported. This action will stabilise the use of the family name ACRIDIDAE in the sense in which it is now used by all taxonomc workers on the group. The name ACRIDIDAE has formed the basis of the French designation of five successive international anti-locust conferences (1931, 1932, 1934, 1936 and 1938) as " Conferences internationales anti-acridiennes." It is also incorporated in the name of the " Office National Anti-Acridien," which is the French central institution for anti-locust research ; and in the name of the " Comite Interamericano Permanente Antiacridiano " established in 1948 by a Convention of nine South and Central American States.

Finally, the term " acridology " is now being increasingly used to define that branch of entomology which deals with ACRIDIDAE.

FIRST REPORT ON MATTERS LEFT UNSETTLED IN " OPINION " 124, IN RELATION TO THE STATUS OF THE TERMS USED BY LINNAEUS IN 1758 TO DENOTE SUBDIVISIONS OF GENERA ESTABLISHED IN THE 10TH EDITION OF THE " SYSTEMA NATURAE "

The subdivisions of the genus " Gryllus " Linnaeus, 1758 (Class Insecta, Order Orthoptera)

By FRANCIS HEMMING, C.M.G., C.B.E.
(*Secretary to the International Commission on Zoological Nomenclature*)

(Commission's reference Z.N.(S.)328)

1. At its meeting held in Paris in 1948 the International Commission on Zoological Nomenclature placed on record their disapproval of the practice sometimes adopted in the past, under which the decision given in an *Opinion* dealt with part only of the issues involved, and agreed to invite the Secretary to the Commission (a) to examine all the *Opinions* so far rendered, with a view to ascertaining every instance where an application had been dealt with incompletely and (b) to submit proposals as soon as possible for the rendering, as a matter of urgency, of supplementary *Opinions* dealing with the questions left unanswered in the earlier *Opinions* concerned (1950, *Bull. zool. Nomencl.* **4** : 355). This decision was endorsed by the Thirteenth International Congress of Zoology (1950, *Bull. zool. Nomencl.* **5** : 104–105).

2. *Opinion* 124 provides a conspicuous example of the class of case covered by the foregoing decision, for that *Opinion* lays down a general principle applicable to all the terms used by Linnaeus to denote subdivisions of genera, but discusses the effect of that decision in relation to one only of the genera concerned (*Gryllus* Linnaeus, 1758) and, even in that case, in relation to one only of the six terms used by Linnaeus to denote subdivisions of that genus. The submission by Dr. Ashley B. Gurney of proposals relating to two other of the terms used by Linnaeus to denote subdivisions of the genus *Gryllus* provides a convenient opportunity for placing before the Commission proposals for such further action as is necessary in order to fill in all the gaps in *Opinion* 124, in so far as that *Opinion* is concerned with the status to be accorded to the terms used by Linnaeus in 1758 to denote subdivisions of the foregoing genus. I accordingly decided to devote to this subject the first of the Reports which, under the decision of the International Congress of Zoology quoted in paragraph 1 above, I have been asked to prepare in regard to matters left unsettled by *Opinion* 124. This Report I now submit for consideration by the International Commission on Zoological Nomenclature. Further Reports dealing with terms used by Linnaeus in 1758 to denote subdivisions of genera, other than *Gryllus* Linnaeus, will be submitted, as and when opportunity offers.

3. *Arrangement of Report :* In the present Report, I deal, in turn, with each of the six terms used by Linnaeus in 1758 to denote subdivisions of the genus *Gryllus*. In each case I indicate such action, if any, as has already been taken by the Commission in regard thereto and refer to the proposals in regard to certain of those terms which have been submitted to the Commission by Dr. Ashley B. Gurney. Where necessary, I indicate such further consequential action as is necessary, in order completely to dispose of the cases concerned.

4. *The term* Mantis *as used by Linnaeus :* At Lisbon in 1935 the International Commission decided to place on the *Official List of Generic Names in Zoology* the generic name *Mantis* Linnaeus as from 1767, that being the date on which this name was first validly used as a generic name, its use on that occasion being acceptable to specialists as it was in accordance with current nomenclatorial practice. By this decision therefore the Commission decided also that there were no grounds for the use of the plenary powers for the purpose of validating the name *Mantis* as from Linnaeus, 1758 (*Syst. Nat.* (ed. 10) **1** : 425). All therefore that is now required in this connection is that the reputed but non-existent generic name *Mantis* Linnaeus, 1758, should be placed on the *Official Index of Rejected and Invalid Generic Names in Zoology.* It should be noted that some authors have suggested that the name *Mantis* Linnaeus, 1767, is ante-dated by the name *Mantes* Geoffroy, 1762 (*Hist. abrég. Ins. Paris* **1** : 399), but this is not correct, for the Commission has decided that, in the work quoted, Geoffroy did not apply the principles of binominal nomenclature and therefore that no name published therein acquires availability in zoological nomenclature on that account (see 1950, *Bull. zool. Nomencl.* **4** : 366-369). It would be well, however, finally to dispose of this matter by placing the reputed but non-existent generic name *Mantes* Geoffroy on the *Official Index.* Finally, it is necessary at this point to refer to the decision taken by the International Congress of Zoology in 1948 that the trivial names of the type species of genera placed on the *Official List of Generic Names in Zoology* should, when they are the oldest available names for the species concerned, be placed on the *Official List of Specific Trivial Names in Zoology ;* this decision is retrospective and will therefore in any case apply in the present instance when the foregoing *Official List* comes to be compiled. It will be convenient, however, to take the present opportunity to deal with this matter by placing on the *Official List* the trivial name *religiosus* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 426 (as published in the binominal combination *Gryllus religiosus*), that being the trivial name of the type species of *Mantis* Linnaeus, 1767.

5. *The term* Acrida *as used by Linnaeus :* Dr. Gurney's proposal (that *Acrida* should be placed on the *Official List of Generic Names in Zoology* with status as from Linnaeus, 1758 (*Syst. Nat.* (ed. 10) **1** : 427), and with *Gryllus turritus* Linnaeus, 1758, as type species) covers all the principal matters which call for action in this case. It should be noted, however, that, since at present the term *Acrida* possesses no status as a subgeneric name as from Linnaeus, 1758, it follows automatically that there is at present no nominal genus (or subgenus) *Acrida* Linnaeus, 1758, and consequently that, if (as proposed by Dr. Gurney) the plenary powers are used to bring into existence the subgeneric name *Acrida* Linnaeus, 1758, the same powers will need to be used to provide that newly created nominal subgenus with a type species. Further, for the reasons explained (in paragraph 4) in connection with the generic name *Mantis* Linnaeus, 1767, it will be necessary to place on the *Official List of Specific*

Trivial Names in Zoology the trivial name *turritus* Linnaeus, 1758 (as published in the binominal combination *Gryllus turritus*), the trivial name of the species proposed by Dr. Gurney to be designated as the type species of this genus.

6. *The term* Bulla *as used by Linnaeus :* The International Commission, in *Opinion* 124, pointed out that, even if Linnaeus had in 1758 (*Syst. Nat.* (ed. 10) **1** : 427) published the name *Bulla* as the name of a subgenus of *Gryllus* Linnaeus, 1758 (Class Insecta), that name, being a subgeneric name, would have fallen (under a rule then recommended by the Commission to the Congress) as a homonym of the Gastropod name *Bulla* Linnaeus, 1758 (*Syst. Nat.* (ed. 10) **1** : 725), the latter name having been published as a generic name and accordingly, being of the same date, possessing priority over its homonym published as a subgeneric name. The Gastropod name *Bulla* Linnaeus has now been placed on the *Official List of Generic Names in Zoology* (see 1950, *Bull. zool. Nomencl.* **4** : 305) ; all that is called for therefore to complete the action required in the present case is to place the reputed but non-existent name *Bulla* Linnaeus, 1758 (in the Class Insecta) on the *Official Index of Rejected and Invalid Generic Names in Zoology.*

7. *The term* Acheta *as used by Linnaeus :* Dr. Gurney has explained in the first of the footnotes to his applciation that, while in the past some authors have treated *Acheta* as having acquired subgeneric status as from Linnaeus, 1758 (*Syst. Nat.* (ed. 10) **1** : 428), others have used this name as published by Fabricius in 1775 (*Syst. Ent.* : 279-282, 826), when it was employed in a strictly binominal sense. It was there used by Fabricius for ten species, of which the second was *Gryllus domesticus* Linnaeus, 1758 (*Syst. Nat.* (ed. 10) **1** : 428). This species was selected as the type species by Curtis in 1830 (*Brit. Ent.* **7** : 293), and this generic name is currently used in this sense. As, under *Opinion* 124, the name *Acheta* has no standing as a subgeneric name as from Linnaeus, 1758, and as Fabricius (1775) was the first author to use the word *Acheta* as a generic or subgeneric name, the name *Acheta* Fabricius, 1775, is an available name. Further, as its type species under the *Règles* (*Gryllus domesticus* Linnaeus, 1758) is the species currently accepted as such, there is no reason why the International Commission should use its plenary powers to validate the name *Acheta* as from Linnaeus, 1758, the present position by which that name ranks from Fabricius, 1775, being perfectly satisfactory. All that is required to make the position clear is (1) to place the generic name *Acheta* Fabricius, 1775, on the *Official List of Generic Names in Zoology* and the trivial name *domesticus* Linnaeus, 1758 (as published in the binominal combination *Gryllus domesticus*) on the *Official List of Specific Trivial Names in Zoology*, and (2) to place the reputed but non-existent subgeneric name *Acheta* Linnaeus, 1758, on the *Official Index of Rejected and Invalid Generic Names in Zoology.* Dr. Gurney and Dr. B. P. Uvarov, whom I have consulted, both support this proposal. Dr. Uvarov points out that his name *Gryllulus* (Uvarov, 1935, *Ann. Mag. nat. Hist.* (10) **16** : 320) is an objective synonym of *Acheta* Fabricius, 1775 ; it is accordingly proposed that that name should be added to the *Official Index of Rejected and Invalid Generic Names.*

8. *The term* Tettigonia *as used by Linnaeus :* Dr. Gurney and Dr. Uvarov (supported from the point of view of hemipterological literature by Dr. W. E. China and Mr. R. G. Fennah) recommend that the Commission should use its plenary powers to validate the name *Tettigonia* as of subgeneric status as from Linnaeus, 1758 (*Syst. Nat.* (ed. 10) **1** : 429) ; Dr. Gurney and Dr. Uvarov further propose that the nominal species to be accepted as the type species of this genus should be *Gryllus viridissimus* Linnaeus, 1758 (*Syst. Nat.* (ed. 10) **1** : 430). For the reasons already explained in the parallel case of *Acrida* Linnaeus, 1758 (paragraph 5 above), it will be necessary for the Commission to use its plenary powers for the latter, just as much as for the former, of these purposes. The only other action called for in connection with this name is (for the reasons explained in paragraph 4 above in connection with the name *Mantis*) to place on the *Official List of Specific Trivial Names in Zoology* the trivial name *viridissimus* Linnaeus, 1758 (as published in the binominal combination *Gryllus viridissimus*), that being the trivial name of the nominal species recommended by Dr. Gurney for recognition as the type species of *Tettigonia* Linnaeus, 1758.

9. *The reputed generic name* Tetigonia *Geoffroy*, 1762 : The action proposed by Dr. Gurney and Dr. Uvarov will serve two valuable purposes, quite unconnected with one another : first, it will (as they desire) provide a legal foundation for the name *Tettigonia* as a generic name in the Order Orthoptera ; second, it will eliminate, as an invalid junior homonym (under the provision which is to replace (1950, *Bull. zool. Nomencl.* **4** : 161-162) subsection (d) in the third paragraph of Article 35, as applied to Article 34), the confusingly similar name *Tetigonia* in the Order Hemiptera. The disappearance of this name is welcomed by both Dr. China and Mr. Fennah. It is desirable that the present opportunity should be taken to make the position clear by placing on the *Official Index of Rejected and Invalid Generic Names in Zoology* both (1) the name *Tetigonia* Geoffroy, 1762, *Hist. abrég. Ins. Paris* **1** : 429 (which, quite apart from the application submitted by Dr. Gurney, is already an invalid name having been published in a work in which the author (Geoffroy) did not apply the principles of binominal nomenclature—see 1950, *Bull. zool. Nomencl.* **4** : 366-369), (2) the name *Tettigonia* Fabricius, 1775, *Syst. Ent.* : 678 (which, pending the approval of Dr. Gurney's proposal, is an available name), (3) *Tetigonia* Fourcroy, 1785, *Ent. pariş.* **1** : 193 (an invalid homonym of *Tettigonia* Fabricius, 1775), and (4) *Tetigonia* Blanchard, 1852, *in* Gay, *Hist. Chile* (Zool.) **7** : 282.

10. *Effect of eliminating the name* Tetigonia *from hemipterological literature :* Dr. China has pointed out that the final elimination of the name *Tetigonia* from the literature of the Order Hemiptera will be to restore to unquestioned availablity the generic name *Ledra* Fabricius, 1803 (*Syst. Rhyngot.* : 24), and consequently also the family name LEDRIDAE. Dr. China, after examining and (rightly) rejecting the claim advanced by Kirkaldy that Fabricius had himself designated a type species for the genus *Ledra*, has reported (*in litt.*, 18th January 1949) that the first valid selection of a type species for this genus was that by Latreille in 1810 (*Consid. gén. Crust. Arach. Ins.* : 434) of *Cicada aurita* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 435. In view of the uncertainty that has existed regarding the status of the generic name *Ledra*, having regard to the competing (but now finally rejected) claims of *Tetigonia* Geoffroy, 1762, it is clearly desirable that the name *Ledra* Fabricius should be placed on the *Official List of Generic Names in Zoology*, with the above species as type species, the trivial name *aurita* Linnaeus, 1758 (as published in the binominal combination *Cicada aurita*), the trival name of that species, being at the same time placed on the *Official List of Specific Trivial Names in Zoology.*

11. *The term* Locusta *as used by Linnaeus :* At Lisbon in 1935 the International Commission used its plenary powers (a) to validate the name *Locusta*, as from Linnaeus, 1758 (*Syst. Nat.* (ed. 10) **1** : 431), and (b) to designate *Gryllus migratorius* Linnaeus, 1758, to be the type species of that genus. This decision was later embodied in *Opinion* 158. The only supplementary action now required is (for the reasons explained in paragraph 4 above in connection with the name *Mantis*) to place the trivial name *migratorius* Linnaeus, 1758 (*Syst. Nat.* (ed. 10) **1** : 432) (as published in the binominal combination *Gryllus migratorius*) on the *Official List of Specific Trivial Names in Zoology* that *List* not having been in existence at the time when the Commission dealt with this name in 1935.

12. Having now reviewed (a) the action already taken by the International Commission in regard to the terms used by Linnaeus in 1758 to denote subdivisions of the genus *Gryllus* Linnaeus, and (b) the proposals in regard to two of those terms submitted by Dr. Ashley B. Gurney, and having submitted also certain supplementary recommendations on various matters either connected with the status to be accorded to the foregoing terms or arising incidentally in connection therewith, we may summarise as follows the proposals now laid before the International Commission. These are that the Commission should :—

(1) use its plenary powers to validate, as of subgeneric status, the names specified in Column (1) below, those names to be treated as having been published by Linnaeus in 1758 on the pages of the 10th edition of the *Systema Naturae* there specified, and (b) to designate, as the type species of the nominal subgenera in question, the species severally specified in Column (2) below :—

Name of subgenus (1)	*Nominal species designated as the type species of subgenus specified in Col.* (1) (2)
Acrida Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 427	*Gryllus turritus* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 427
Tettigona Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 429	*Gryllus viridissimus* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 430

(2) place the under-mentioned generic names on the *Official List of Generic Names in Zoology*, with the type species severally specified below :—

(a) *Acheta* Fabricius, 1775, *Syst. Ent.* : 279-282, 826 (type species, by subsequent selection by Curtis, 1830 (*Brit. Ent.* **7** : 293) : *Gryllus domesticus* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 428).

(b) *Acrida* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 427 (as proposed, under (1) above, to be validated under the plenary powers) (type species, by designation, as proposed in (1) above, under the plenary powers : *Gryllus turritus* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 427).

(c) *Ledra* Fabricius, 1803, *Syst. Rhyngot.* : 24 (type species, by subsequent selection by Latreille, 1810 (*Consid. gén. Crust. Arach. Ins.* : 434) : *Cicada aurita* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 435).

(d) *Tettigonia* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 429 (as proposed, under (1) above, to be validated under the plenary powers) (type species by designation, as proposed in (1) above, under the plenary powers : *Gryllus viridissimus* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 430) ;

(3) place the undermentioned generic names and alleged generic names on the *Official Index of Rejected and Invalid Generic Names in Zoology* :—

(a) *Acheta* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 428 (a reputed but non-existent name).

(b) *Bulla* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 427 (a reputed but non-existent name).

(c) *Gryllulus* Uvarov, 1935, *Ann. Mag. nat. Hist.* (10)**16** : 320 (an invalid junior synonym of *Acheta* Fabricius, 1775).

(d) *Mantes* Geoffroy, 1762, *Hist. abrég. Ins. Paris* **1** : 399 (a name possessing no status because published by an author who did not apply the principles of binominal nomenclature).

(e) *Mantis* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 425 (a reputed but non-existent name).

(f) *Tetigonia* Geoffroy, 1762, *Hist. abrég. Ins. Paris* **1** : 429 (a name possessing no status because published by an author who did not apply the principles of binominal nomenclature).

(g) *Tetigonia* Fourcroy, 1785, *Ent. paris.* **1** : 193 (an invalid junior homonym of *Tettigonia* Linnaeus, 1758, as proposed, under (1) above, to be validated under the plenary powers).

(h) *Tetigonia* Blanchard, 1852, *in* Gay. *Hist. Chile* (Zool.) **7** : 282 (an invalid junior homonym of *Tettigonia* Linnaeus, 1758, as proposed, under (1) above, to be validated under the plenary powers).

(i) *Tettigonia* Fabricius, 1775, *Syst. Ent.* : 678 (an invalid junior homonym of *Tettigonia* Linnaeus, 1758, as proposed, under (1) above, to be validated under the plenary powers) ;

(4) place the undermentioned trivial names on the *Official List of Specific Trivial Names in Zoology* :—

(a) *aurita* Linnaeus, 1758 (as published in the binominal combination *Cicada aurita*) (trivial name of type species of *Ledra* Fabricius, 1803).

(b) *domesticus* Linnaeus, 1758 (as published in the binominal combination *Gryllus domesticus*) (trivial name of type species of *Acheta* Fabricius, 1775).

(c) *migratorius* Linnaeus, 1758 (as published in the binominal combination *Gryllus migratorius*) (trivial name of type species of *Locusta* Linnaeus, 1758).

(d) *religiosus* Linnaeus, 1758 (as published in the binominal combination *Gryllus religiosus*) (trivial name of type species of *Mantis* Linnaeus, 1767).

(e) *turritus* Linnaeus, 1758 (as published in the binominal combination *Gryllus turritus*) (trivial name of species proposed, under (1) above, to be designated under the plenary powers as type species of *Acrida* Linnaeus, 1758).

(f) *viridissimus* Linnaeus, 1758 (as published in the binominal combination *Gryllus viridissimus*) (trivial name of species proposed, under (1) above, to be designated under the plenary powers as type species of *Tettigonia* Linnaeus, 1758).

PROPOSED ADDITION TO THE "OFFICIAL LIST OF GENERIC NAMES IN ZOOLOGY" OF THE NAMES OF CERTAIN NON-MARINE GENERA IN THE PHYLUM MOLLUSCA

By A. E. ELLIS
(*Epsom College, Surrey, England*)

(Commission's reference Z.N.(S.)470)

I submit herewith for addition to the *Official List of Generic Names in Zoology* the following names of non-marine genera in the Phylum Mollusca. I have satisfied myself that each of these names is an available name in the sense that it is not a homonym of a previously published name. Each of the nominal genera, the names of which are here recommended for admission to the *Official List*, is currently accepted by specialists as having the oldest available name for the taxonomic genus which it represents. In each case the species proposed to be specified in the *Official List* as the type species of the genus concerned has been correctly determined as such under the *Règles*, that species having been so designated or indicated by the original author or, as the case may be, selected by the first subsequent author to select a type species for the genus concerned. The gender of each generic name is indicated in brackets immediately after the name concerned.

Class PELECYPODA

Corbicula (feminine) Megerle von Muehlfeld, 1811, *Mag. Gesell. Naturf. Freunde Berlin* **5** : 56 (type species, by monotypy : *Tellina fluminalis* Müller (O.F.), 1774, *Verm. terrestr. fluviat. Hist.* **2** : 205).

Dreissena (feminine) van Beneden, 1835, *Bull. Acad. Belg. Cl. Sci.* **2** : 25, as emended by Dumortier, 1835 (*ibid.* **2** : 44) from *Driessena* (type species, by monotypy : *Mytulus* (error for *Mytilus*) *polymorphus* Pallas, 1771, *Reise Prov. russisch. Reichs* **1** : 478).

Pisidium (neuter) Pfeiffer, 1821, *Naturgesch. deutsch. Land-u. Süsswasser-Mollusken* **1** : 17, 123 (type species, selected by Gray, 1847 (*Proc. zool. Soc. Lond.* **15** : 185) : *Tellina amnica* Müller (O.F.), 1774, *Verm. terrestr. fluviat. Hist.* **2** : 205).

Class GASTROPODA

Abida (feminine) Turton, 1831, *Man. Land Freshwater Shells brit. Isl.* : 101 (type species, by monotypy : *Pupa secale* Draparnaud, 1801, *Tabl. Moll. terrestr. et fluviat. France* : 59).

Acanthinula (feminine) Beck, 1847, *Amtl Ber. 24 Versamml. deutsch. Naturf. u. Aerzte Kiel* : 122 (type species, selected by Martens, 1860 (*in* Albers, *Die Heliceen* (ed. 2) : xiii, 101) : *Helix aculeata* Müller (O.F.), 1774, *Verm. terrestr. fluviat. Hist.* **2** : 81.

Acroloxus (masculine) Beck, 1837 (*Index Moll. Mus. Christ. Freder.* : 124) (type species, selected by Herrmannsen, 1846 (*Indic. Gen. Malacoz. Primordia* **1** : 16) : *Patella lacustris* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 783).

Ancylus (masculine) Müller (O.F.), 1774, *Verm. terrestr. fluviat. Hist.* **2** : 201) (type species, selected by Gray, 1847 (*Proc. zool. Soc. Lond.* **15** : 181) : *Ancylus fluviatilis* Müller (O.F.), 1774, *Verm. terrestr. fluviat. Hist.* **2** : 201).

Aplexa (feminine) Fleming, 1820, Brewster's *Edinb. Ency.* **14** : 617 (type species, by monotypy : *Bulla hypnorum* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 727).

Arianta (feminine) Turton, 1831, *Man. Land Fresh-water Shells brit. Isl.* : 35 (type species, by monotypy : *Helix arbustorum* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 771).

Arion (masculine) Férussac, 1819, *Hist. nat. Moll. terrestr. et fluviat.* **2** : 50, 53 (type species, selected by Fleming, 1822 (*Ency. brit.* suppl. 4th, 5th and 6th eds. **5** : 572) : *Limax ater* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 652).

Assiminea (feminine) Fleming, 1828, *Hist. brit. Anim.* : 275 (type species, by monotypy : *Assiminea grayana* Fleming, 1828, *Hist. brit. Anim.* : 275).

Azeca (feminine) Fleming, 1828, *Hist. brit. Anim.* : 269 (type species, by monotypy : *Turbo tridens* Pulteney, 1799, *Cat. Birds, Shells, Dorsetshire :* 46, *nec* Müller (O.F.), 1774 (=*Helix* (*Cochlodonta*) *goodalli* Férussac, 1821, *Tabl. syst. Anim. Moll.* : 75).

Balea (feminine) Gray, 1824, *Zool. J.* **1** : 61 (type species, selected by Herrmannsen, 1846 (*Indic. Gen. Malacoz. Primordia* **1** : 103) : *Pupa fragilis* Draparnaud, 1801, *Tabl. Moll. terrestr. fluviat. France* : 64 (=*Turbo perversus* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 767)).

Carychium (neuter) Müller (O.F.), 1774, *Verm. terrestr. fluviat, Hist.* **2** : 125 (type species, by monotypy : *Carychium minimum* Müller (O.F.), 1774, *loc. cit.* : 125).

Cecilioides (feminine) Férussac, 1814 (*Mém. géol.* : 48 (type species, by monotypy : *Buccinum acicula* Müller (O.F.), 1774, *Verm. terrestr. et fluviat. Hist.* **2** : 150).

Clausilia (feminine) Draparnaud, 1805, *Hist. nat. Moll. terrestr. fluviat. France* : 68 (type species, selected by Turton, 1831 (*Man. Land Freshwater Shells brit. Isl. :* 6) : *Turbo bidens* Montagu, 1803, *Test. brit.* 357 (=*Turbo bidentatus* Ström, 1765, *Trondheim Selskabs Skrifter* **3** : 436)).

Cochlicella (feminine) Férussac, 1821, *Tabl. syst. Anim. Moll.* : 56 (type species, selected by Gray, 1847 (*Proc. zool. Soc. Lond.* **15** : 173) : *Helix conoidea* Draparnaud, 1801. *Tabl. Moll. terrestr. fluviat. France* : 68 (see *J. Conchol.* **22** : 62)).

Discus (masculine) Fitzinger, 1833. *Beitr. Landesk. Oestr. Enns* **3** : 99 (type species, selected by Gray (1847, *Proc. zool. Soc. Lond.* **15** : 174) : *Helix ruderata* Férussac, 1821, *Tabl. syst. Anim. Moll.* : 44).

Euconulus (masculine) Reinhardt, 1883, *SitzBer. Ges. Naturf. Freunde. Berlin* **1883** : 86 (substitute name for *Conulus* Fitzinger, 1833 (*Beitr. Landes. Oesterr.* **3** : 94, an invalid junior homonym of *Conulus* Leske, 1778) (type species, by selection for *Conulus* Fitzinger, 1833, by Gray, 1847 (*Proc. zool. Soc. Lond.* **15** : 173) : *Helix fulva* Müller (O.F.), 1774, *Verm. terrestr. fluviat. Hist.* **2** : 56).

Fruticicola (feminine) Held, 1837. *Isis* (Oken) **30** (12) : 914 (type species, selected by Herrmannsen, 1847 (*Indic. Gen. Malacoz. Primordia* **2** : 450) : *Helix fruticum* Müller (O.F.). 1774. *Verm. terrestr. fluviat. Hist.* **2** : 71).

Geomalacus (masculine) Allman, 1843, *Athenaeum*, **1843** : 851 (type species, by monotypy : *Geomalacus maculosus* Allman. 1843, *Athenaeum*. **1843** : 851).

Hydrobia (feminine) Hartmann, 1821, *Neue Alpina* **1** : 258 (type species, by monotypy : *Cyclostoma acutum* Draparnaud, 1805, *Hist. nat. Moll. terrestr. fluviat. France* : 40 (=*Turbo ventrosus* Montagu, 1803. *Test. brit.*: 317)).

Hygromia (feminine) Risso, 1826, *Hist. nat. Eur. mérid.* **4** : 66 (type species, selected by Herrmannsen, 1847 (*Indic. Gen. Malacoz. Primordia* **1** : 547) : *Helix cinctella* Draparnaud, 1801, *Tabl. Moll. terrestr. fluviat. France* : 87).

Lacinaria (feminine) Hartmann, 1844, *Erd-u. Süssw.-Gast.* : 216 (type species, by Monotypy : *Pupa plicata* Draparnaud, 1801, *Tabl. Moll. terrestr. fluviat. France* : 63).

Lauria (feminine) Gray, 1840, Turton's *Man. Land and Freshw. Shells brit. Isl.* (ed. 2) : 193 (type species, selected by Herrmannsen, 1847 (*Indic. Gen. Malacoz. Primordia* **1** : 578) : *Pupa umbilicata* Draparnaud, 1801, *Tabl. Moll. terrestr. fluviat. France* : 58 (=*Turbo cylindraceus* da Costa, 1778, *Hist. nat. Testac. Britann.* : 89).

Leucophytia (feminine) Winckworth, 1949, *J. Conch.* **23** : 38 (type species, by original designation : *Voluta bidentata* Montagu, 1808. *Test. brit.*, Suppl. : 100).

Milax (masculine) Gray, 1855, *Cat. Pulmonata brit. Mus.* **1** : 174 (type species, selected by Hesse, 1926 (*Abh. Archiv. Molluskenk.* **2** : 31) and by Kennard and Woodward, 1926 (*Synon. brit. non-marine Moll.* : 204) : *Limax gagates* Draparnaud, 1801, *Tabl. Moll. terrestr. fluviat. France* : 100).

Otina (feminine) Gray, 1847, *Proc. zool. Soc. Lond.* **15** : 156 (type species, by monotypy : *Helix otis* Turton, 1819, *Conch. Dict. brit. Isl.* : 70, *nec* Solander, 1786 (*Cat. Portland Mus.* : 38) (=*Gallericulum ovatum* Brown, 1844, *Illustr. rec. Conch. Gt. Brit. Ireland* : 23)).

Phytia (feminine) Gray, 1821, *Lond. med. Rep.* **15** : 231 (type species, by monotypy : *Voluta denticulata* Montagu, 1803, *Test. brit.* : 234 (regarded by most authors as referable to *Auricula myosotis* Draparnaud, 1801, *Tabl. Moll. terrestr. fluviat. France* : 53)).

Planorbis (masculine) Müller (O.F.), 1774, *Verm. terrestr. fluviat. Hist.* **2** : 152 (type species, by absolute tautonomy : *Helix planorbis* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 769).

Pomatias (masculine) Studer, 1789, in Coxe's *Travels in Switzerland* **3** : 388 (type species, by monotypy : *Nerita elegans* Müller (O.F.), 1774, *Verm. terrestr. fluviat. Hist.* **2** : 177).

Punctum (neuter) Morse, 1864, *J. Portland Soc.* **1** : 5, 27 (type species, by monotypy : *Helix minutissima* Lea, 1841, *Trans. amer. phil. Soc.* **9** : 17).

Pupilla (feminine) Fleming, 1828, *Hist. brit. Anim.* : 268 (type species by monotypy : *Pupa marginata* Draparnaud, 1801, *Tabl. Moll. terrestr. fluviat. Hist.* **2** : 58 (=*Turbo muscorum* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 767)).

Pyramidula (feminine) Fitzinger, 1833, *Beitr. Landesk. Oestr. Enns* **3** : 95 (type species, by monotypy : *Helix rupestris* Draparnaud, 1801, *Tabl. Moll. terrestr. fluviat. Hist.* **2** : 71).

Retinella (feminine) Fischer, 1877, Shuttleworth's *Notit. Malacol.* **2** : 5 (type species, selected by Kobelt, 1879 (*Illustr. Conchylienbuch* : 223) : *Helix olivetorum* Gmelin, 1791, *Syst. Nat.* (ed. 13) **1** : 3639).

Rumina (feminine) Risso, 1826, *Hist. nat. Eur. mérid.* **4** : 79 (type species, by monotypy : *Helix decollata* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 773).

Segmentina (feminine) Fleming, 1818, *Ency. brit. Suppl.* 4th, 5th and 6th eds. **3** : 309 (type species, by monotypy : *Nautilus lacustris* Lightfoot, 1786, *Phil. Trans. Roy. Soc.* **76** : 163 (=*Planorbis nitidus* Müller (O.F.), 1774, *Verm. terrestr. fluviat. Hist.* **2** : 163)).

Subulina (feminine) Beck, 1837, *Ind. Moll.* : 76 (type species, selected by Gray, 1847 (*Proc. zool. Soc. Lond.* **15** : 177) : *Bulimus octonus* Bruguière, 1789, *Ency. méth.* (Vers.) **1** : 325).

Testacella (feminine) Draparnaud, 1801, *Tabl. Moll. terrestr. fluviat. France* **2** : 33, 99 (type species, by monotypy : *Testacella haliotidea* Draparnaud, 1801, *loc. cit.* : 99).

Theodoxus (masculine) Montfort, 1810, *Conch. syst.* **2** : 351 (type species. by original designation : *Theodoxus lutetianus* Montfort, 1810, *loc. cit.* **2** : 351 (=*Nerita fluviatilis* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 777)).

Truncatellina (feminine) Lowe, 1852, *Ann. Mag. nat. Hist.* (2) **9** : 275 (type species, by monotypy : *Pupa* (*Truncatellina*) *linearis* Lowe, 1852, *loc. cit.* (2) **9** : 275).

Vallonia (feminine) Risso, 1826, *Hist. nat. Eur. mérid.* **4** : 101 (type species, by monotypy : *Vallonia rosalia* Risso, 1826, *loc. cit.* : 102 (=*Helix pulchella* Müller (O.F.), 1774, *Verm. terrestr. fluviat. Hist.* **2** : 30)).

Valvata (feminine) Müller (O.F.), 1774, *Verm. terrestr. fluviat. Hist.* **2** : 198 (type species, by monotypy : *Valvata cristata* Müller (O.F.), 1774, *loc. cit.* **2** : 198).

Vertigo (feminine) Müller (O.F.), 1774, *Verm. terrestr. fluviat. Hist.* **2** : 124 (type species, by monotypy : *Vertigo pusilla* Müller (O.F.), 1774, *loc. cit.* **2** : 124).

Vitrea (feminine) Fitzinger, 1833, *Beitr. Landesk. Oestr. Enns* **3** : 99 (type species, by monotypy : *Helix diaphana* Studer, 1820, Meisner's *Naturw. Anz. Allg. Schweiz. Ges.* **3** : 86 (issued separately in 1820 as *Syst. Verz. Schweiz. Conch.* : 13)).

Viviparus (masculine) Montfort, 1810, *Conch. Syst.* **2** : 246 (type species by original designation : *Viviparus fluviorum* Montfort, 1810, *loc. cit.* **2** : 246 (=*Helix vivipara* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 772)).

Zonitoides (masculine) Lehmann, 1862, *Malak. Blätter* **9** : 111 (type species, by monotypy : *Helix nitida* Müller (O.F.), 1774, *Verm. terrestr. fluviat. Hist.* **2** : 32).

In the case of the generic name *Testacella* Draparnaud, 1801, proposed above for inclusion in the *Official List*, there is one earlier identical name that was published as a *nomen nudum* a year earlier and another that was published in the same year. To prevent confusion, it is desirable that these *nomina nuda* should now be placed on the *Official Index of Rejected and Invalid Generic Names in Zoology*. The names in question are :—

Testacella Cuvier 1800, Leçons *Anat. comp.* **1** : *Tabl.* 5.

Testacella Lamarck, 1801, *Syst. Anim. sans Vertèbr.* : 96.

Further, in compliance with the decision taken in this matter by the Thirteenth International Congress of Zoology, I ask the International Commission to place on the *Official List of Specific Trivial Names in Zoology* the undermentioned trivial names, being the trivial names of nominal species which are the type species of genera included in the list submitted above :—

Class PELECYPODA

Specific Trivial Name	Original Combination
amnica Müller, 1774	*Tellina amnica*
fluminalis Müller, 1774	*Tellina fluminalis*
polymorphus Pallas, 1771	*Mytulus* [ex err. pro *Mytilus*] *polymorphus*

CLASS GASTROPODA

Specific Trivial Name	Original Combination
acicula Müller, 1774	*Buccinum acicula*
aculeata Müller, 1774	*Helix aculeata*
arbustorum Linnaeus, 1758	*Helix arbustorum*
ater Linnaeus, 1758	*Limax ater*
bidentata Montagu, 1808	*Voluta bidentata*
cinctella Draparnaud, 1801	*Helix cinctella*
conoidea Draparnaud, 1801	*Helix conoidea*
cristata Müller, 1774	*Valvata cristata*
decollata Linnaeus, 1758	*Helix decollata*
diaphana Studer, 1820	*Helix diaphana*
elegans Müller, 1774	*Nerita elegans*
fluviatilis Müller, 1774	*Ancylus fluviatilis*
fruticum Müller, 1774	*Helix fruticum*
fulva Müller, 1774	*Helix fulva*
gagates Draparnaud, 1801	*Limax gagates*
grayana Fleming, 1828	*Assiminea grayana*
haliotidea Draparnaud, 1801	*Testacella haliotidea*
hypnorum Linnaeus, 1758	*Bulla hypnorum*
lacustris Linnaeus, 1758	*Patella lacustris*
linearis Lowe, 1852	*Pupa (Truncatellina) linearis*
lineatus Draparnaud, 1801	*Bulimus lineatus*
maculosus Allman, 1843	*Geomalacus maculosus*
minimum Müller, 1774	*Carychium minimum*
nitida Müller, 1774	*Helix nitida*
octonus Bruguière, 1789	*Bulimus octonus*
olivetorum Gmelin, 1891	*Helix olivetorum*
planorbis Linnaeus, 1758	*Helix planorbis*
plicata Draparnaud, 1801	*Pupa plicata*
pusilla Müller, 1774	*Vertigo pusilla*
ruderata Férussac, 1821	*Helix (Helicella) ruderata*
rupestris Draparnaud, 1801	*Helix rupestris*
secale Draparnaud, 1801	*Pupa secale*

In the case of twelve of the genera, the names of which are herewith proposed for addition to the *Official List of Generic Names in Zoology*, the name of the nominal species which is the type species of the genus concerned is not accepted by specialists as the oldest available name for the taxonomic species represented by the nominal species in question. These cases are :—

CLASS GASTROPODA

Name of genus (1)	*Name of nominal species which is the type species of the genus specified in column* (1) (2)	*Oldest available name for the species specified in column* (2) (3)
Azeca Fleming	*Turbo tridens* Pulteney	*Helix (Cochlodonta) goodalli* Férussac, 1821
Balea Gray	*Pupa fragilis* Draparnaud	*Turbo perversus* Linnaeus, 1758
Hydrobia Hartmann	*Cyclostoma acutum* Draparnaud	*Turbo ventrosus* Montagu, 1803
Lauria Gray	*Pupa umbilicata* Draparnaud	*Turbo cylindraceus* da Costa 1778

Name of genus	*Name of type species*	*Oldest available name for species cited in Col. (2)*
Otina Gray	*Helix otis* Turton	*Gallericulum ovatum* Brown, 1844
Phytia Gray	*Voluta denticulata* Montagu	*Auricula myosotis* Draparnaud, 1801
Pupilla Fleming	*Pupa marginata* Draparnaud	*Turbo muscorum* Linnaeus, 1758
Segmentina Fleming ...	*Nautilus lacustris* Lightfoot	*Planorbis nitidus* Müller, 1774
Theodoxus Montfort	*Theodoxus lutetianus* Montfort	*Nerita fluviatilis* Linnaeus, 1758
Vallonia Risso	*Vallonia rosalia* Risso	*Helix pulchella* Müller, 1774
Viviparus Montfort	*Viviparus fluviorum* Montfort	*Helix vivipara* Linnaeus, 1758

In the twelve cases dealt with above, I recommend that, in accordance with the decision of the Thirteenth International Congress of Zoology, there should be added to the *Official List of Specific Trivial Names in Zoology*, not the trivial name of the nominal species specified in column (2) of the foregoing table, but the trivial name of the nominal species specified in column (3) of that table.

PROPOSED ADDITION TO THE "OFFICIAL LIST OF SPECIFIC TRIVIAL NAMES IN ZOOLOGY" OF THE NAMES OF CERTAIN NON-MARINE SPECIES IN THE PHYLUM MOLLUSCA

By A. E. ELLIS
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(Commission's reference Z.N.(S.)497)

I submit herewith, for addition to the *Official List of Specific Trivial Names in Zoology*, the following trivial names of non-marine species in the Phylum Mollusca. I have satisfied myself that each of these names is an available name and is currently accepted by specialists as the oldest available name, and therefore the valid name, for the taxonomic species that it represents.

Where in the following list there are several trivial names originally published in the same work, I have thought it convenient to cite the title of the work once only, in a list appended at the end of the application. In each such case I have confined the reference given in the actual list to the name of the author, the date of publication and the page on which the specific trivial name in question appeared in the work in question, the page number being here cited in round brackets (parentheses).

Class GASTROPODA

Specific Trivial Name	Original Combination
ocuta Draparnaud, 1805 (55)	*Physa acuta*
albus Müller, 1774 (164)	*Planorbis albus*
alliaria Miller, 1822 (*Ann. Phil.* (new series) **3** : 379)	*Helix alliaria*
alpestris Alder, 1838 (*Trans. nat. Hist. Soc. Northumb.* **2** : 340)	*Vertigo alpestris*
anglicus Wood, 1828 (*Index Testaceologicus, suppt.* : 19)	*Turbo anglicus*
angustior Jeffreys, 1830 (*Trans. linn. Soc. Lond.* **16** : 361)	*Vertigo angustior*
antivertigo Draparnaud, 1801 (57)	*Pupa antivertigo*
arenaria Bouchard-Chantereaux, 1837 (*Mém. Soc. Agric. Boulogne.* (2) **1** : 190)	*Succinea arenaria*
aspersa Müller, 1774 (59)	*Helix aspersa*
auricularia Linnaeus, 1758 (774)	*Helix auricularia*
biplicatus Montagu, 1803 (361)	*Turbo biplaticus*
cantiana Montagu, 1803 (422)	*Helix cantiana*
carinatus Müller, 1774 (157)	*Planorbis carinatus*
cinereoniger Wolf, 1803 (Sturm's *Deutschlands Fauna* **6** (Hft. 1) : 7	*Limax cinereoniger*
circumscriptus Johnston, 1828 (*Edin. New. Phil. J.* **5** : 76)	*Arion circumscriptus*
complanata Linnaeus, 1758 (769)	*Helix complanata*
contorta Linnaeus, 1758 (770)	*Helix contorta*
cornea Linnaeus, 1758 (770)	*Helix cornea*
costata Müller, 1774 (31)	*Helix costata*
crista Linnaeus, 1758 (709)	*Nautilus crista*
crystallina Müller, 1774 (23)	*Helix crystallina*
cylindrica Férussac, 1807 (52)	*Vertigo cylindrica*
detrita Müller, 1774 (101)	*Helix detrita*
dilatatus Gould, 1841 (*Invertebrata of Massachusetts* : 210)	*Planorbis dilatatus*
draparnaldi Beck, 1838 (*Index Molluscorum*, spec. nov. : 7)	*Helicella draparnaldi*
dubia Draparnaud, 1805 (70)	*Clausilia dubia*
edentula Draparnaud, 1805 (59)	*Pupa edentula*
elegans Gmelin, 1791 (*Syst. Nat.* (ed. 13) **1** : 3642)	*Helix elegans*
elegans Risso, 1826 (*Hist. nat. Eur. mérid.* **4** : 59)	*Succinea elegans*
excavatus Alder, 1830 (*Trans. nat. Hist. Soc. Northumb.* **1** : 38)	*Helix excavata*
fasciata Müller, 1774 (182)	*Nerita fasciata*
flavus Linnaeus, 1758 (652)	*Limax flavus*
fontinalis Linnaeus, 1758. (727)	*Bulla fontinalis*
fuscus Montagu, 1803 (330)	*Turbo fuscus*
gigaxi Pfeiffer, 1850 (*Zeitschr. f. Malakozool.* **7** : 85)	*Helix gigaxi*
glabrum Müller, 1774 (129)	*Buccinum glabrum*
granulata Alder, 1830 (*Trans. nat. Hist. Soc. Northumb.* **1** : 39)	*Helix granulata*
hispida Linnaeus, 1758 (771)	*Helix hispida*
hortensis Férussac, 1819 (**2** : 65)	*Arion hortensis*
hortensis Müller, 1774 (52)	*Helix hortensis*
incarnata Müller, 1774 (63)	*Helix incarnata*
intermedius Normand, 1852 (*Description de six Limaces nouvelles* : 6)	*Arion intermedius*
lactea Müller, 1774 (19)	*Helix lactea*
laevis Alder, 1838 (*Trans. nat. Hist. Soc. Northumb.* **2** : 337)	*Planorbis laevis*
lamellata Jeffreys, 1830 (*Trans. linn. Soc. Lond.* **16** : 333)	*Helix lamellata*
laminatus Montagu, 1803 (359)	*Turbo laminatus*
lapicida Linnaeus, 1758 (768)	*Helix lapicida*
leachi Sheppard, 1823 (*Trans. linn. Soc. Lond.* **14** : 152)	*Turbo leachi*
lens Férussac, 1821 (41)	*Helix lens*

Specific Trivial Name	Original combination
lilljeborgi Westerlund, 1871 (*Nova Acta Soc. Sci. Upsala*, (3) **8** (No. 1): 90)	*Pupa (Vertigo) lilljeborgi*
lubrica Müller, 1774 (104)	*Helix lubrica*
major Férussac, 1807 (43)	*Helicolimax major*
marginata Michaud, 1831 (*Complément de l'Histoire naturelle des Mollusques*: 98)	*Paludina marginata*
maximus Linnaeus, 1758 (652)	*Limax maximus*
minuscula Binney, 1840 (*Boston J. nat. Hist.* **3** : 435)	*Helix minuscula*
moulinsiana Dupuy, 1849 (*Catalogue extramarinorum Galliae Testaceorum* : 4)	*Pupa moulinsiana*
naticina Monke, 1845 (*Z. f. Malakozool.* **2** : 129)	*Valvata naticina*
neglecta Draparnaud, 1805 (108)	*Helix neglecta*
nemoralis Lainneus, 1758 (773)	*Helix nemoralis*
nitidula Draparnaud, 1805 (117)	*Helix nitidula*
oblonga Draparnaud, 1801 (56)	*Succinea oblonga*
obvoluta Müller, 1774 (27)	*Helix obvoluta*
palustre Müller, 1774 (131)	*Buccinum palustre*
parallelus Say, 1821 (*J. Acad. nat. Sci. Philad.* **2** : 164)	*Planorbis parallelus*
parvula Férussac, 1807 (111)	*Clausilia parvala*
patulum Draparnaud, 1801 (39)	*Cyclostoma patulum*
pellucida Müller, 1774 (15)	*Helix pellucida*
peregrum Müller, 1774 (130)	*Buccinum peregrum*
petronella Pfeiffer, 1853 (*Monographia Heliceorum viventium* **3** : 95)	*Helix petronella*
piscinalis Müller, 1774 (172)	*Nerita piscinalis*
pomatia Linnaeus, 1758 (771)	*Helix pomatia*
pumila Pfeiffer, 1828 (*Naturgeschichte deutsch. Land- und Süsswasser-Mollusken* **3** : 41)	*Clausilia pumila*
pura Alder, 1830 (*Trans. nat. Hist. Soc. Northumb.* **1** : 36)	*Helix pura*
putris Linnaeus, 1758 (774)	*Helix putris*
pygmaea Draparnaud, 1801 (57)	*Pupa pygmaea*
pygmaea Draparnand, 1801 (93)	*Helix pygmaea*
pyramidata Draparnaud, 1805 (80)	*Helix pyramidata*
pyrenaica Férussac, 1821 (25)	*Helicolimax pyrenaica*
quadridens Müller, 1774 (107)	*Helix quadridens*
radigueli Bourguignat, 1869 (*Catal. Moll. Paris* : 16)	*Lartetia radigueli*
reticulatus Müller, 1774 (10)	*Limax reticulatus*
rolphi Turton, 1831 (*Manual of the Land and Fresh-water Shells of the British Islands* : 71)	*Clausilia rolphi*
rotundata Müller, 1774 (29)	*Helix rotundata*
runtoniana Sandberger, 1880 (*Palaeontographica* **27** : 98)	*Nematurella runtoniana*
scutulum Sowerby, 1821 (*Genera of Recent and Fossil Shells*, pt. 1, *Testacellus*, Figs. 3–6)	*Testacellus scutulum*
septemspiralis Razoumowsky, 1789 (*Histoire naturelle du Jorat* **1** : 278)	*Helix septemspiralis*
similis Bruguière, 1792 (*Ency. méth.*, (Vers.) **1** : 355)	*Bulimus similis*
sowerbyi Férussac, 1823 (*Hist. nat. Moll.* **2** : 96)	*Limax sowerbyi*
stagnalis Linnaeus, 1758 (774)	*Helix stagnalis*
striata Müller, 1774 (38)	*Helix striata*
striolata Pfeiffer, 1828 (*Naturg. deutsch. Land– and Süssw.–Mollusk.* **3** : 28)	*Helix striolata*
subfuscus Draparnaud, 1805 (125)	*Limax subfuscus*
subrufescens Miller, 1822 (*Ann. Phil.* (new ser.) **3** : 43)	*Helix subrufescens*
substriata Jeffreys, 1833 (*Trans. linn. Soc. Lond.* **16** : 515)	*Alaea substriata.*
subvirescens Bellamy, 1839 (*Nat. Hist. South Devon.* : 420)	*Helix subvirescens*
tenellus Müller, 1774 (11)	*Limax tenellus*
truncatulum Müller, 1774 (130)	*Buccinum truncatulum*
ulvae Pennant, 1777 (*Brit. Zool.* **4** : 132)	*Turbo ulvae*
umbrosa Pfeiffer, 1828 (*Naturg. deutsch. Moll.* **3** : 27)	*Helix umbrosa*
ventricosa Draparnaud, 1801 (62)	*Pupa ventricosa*
vermiculata Müller, 1774 (20)	*Helix vermiculata*
virgata da Costa 1778 (*Hist. nat. Testaceorum Britanniae* : 79)	*Cochlea virgata*
vortex Linnaeus, 1758 (770)	*Helix vortex*
vorticulus Troschel, 1834 (*De Limnaeaceis* : 51)	*Planorbis vorticulus*

CLASS PELECYPODA

Specific Trivial Name	Original Combination
anatinus Linnaeus, 1758 (706)	*Mytilus anatinus*
cornea Linnaeus, 1758 (678)	*Tellina cornea*
crassus Philipsson, 1788 (*Dissertatio ... nova Testaceorum Genera* : 17)	*Unio crassus*
cygneus Linnaeus, 1758 (706)	*Mytilus cygneus*
henslowana Sheppard, 1825 (*Trans. linn. Soc. Lond.* **14** : 150)	*Tellina henslowana*
lacustris Müller, 1774 (204)	*Tellina lacuitris*
littoralis Cuvier, 1797 (*Tableau élémentaire de l'Histoire naturelle des Animaux* : 425)	*Unio littoralis*
milium Held, 1836 (*Isis* (Oken) **29** : 281)	*Pisidium milium*
moitessierianum Paladilho, 1866 (*Rev. Mag. Zool.* (2) **18** : 172)	*Pisidium moitessieranum*
nitidum Jenyns, 1832 (*Trans. Camb. phil. Soc.* **4** : 304)	*Pisidium nitidum*
obtusalis Lamarck, 1818 (*Hist. Anim. sans Vertèbr.* **5** : 559)	*Cyclas obtusalis*
pulchellum Jenyns, 1832 (*Trans. Camb. phil. Soc.* **4** : 306)	*Pisidium pulchellum*
rivicola Lamarck, 1818 (*Hist. Anim. sans Vertèbr.* **5** : 558)	*Cyclas rivicola*
solida Normand, 1844 (*Cyclades . . . de Valenciennes* : 6)	*Cyclas solida*
subtruncatum Malm, 1855 (*Götheborgs K. Vet. Vitt. Samh. Handl.* **3** : 92	*Pisidium subtrancatum*
supinum Schmidt, 1850 (*Z. f. Malakozool.* **7** : 119)	*Pisidium supinum*
tenuilineatum Stelfox, 1918 (*J. Conch.* **15** : 296)	*Pisidium tenuilineatum*
transversa Say, 1829 (*Disseminator of Useful Knowledge*, New Harmony, **2** : 356)	*Cyclas transversa*
tumidus Philipsson, 1788 (*Nova Test. Genera* : 17)	*Unio tumidus*
vincentianum Woodward, 1913 (*Catalogue Brit. Spec. Pisidium* : 127	*Pisidium vincentianum*

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Notice to Subscribers

The concluding Part (Part 12) of Volume 1 of the *Bulletin of Zoological Nomenclature* (containing the Title Page, indexes, etc., for that volume) is now in the press and will be published shortly.

Form of Applications to the International Commission on Zoological Nomenclature

Zoologists proposing to submit applications to the International Commission on Zoological Nomenclature are requested to submit those applications, in duplicate and typed, double-spaced, on one side of the page only, and with wide margins. Owing to the lack of staff available for copying applications not submitted in the foregoing form, preference for publication in the *Bulletin of Zoological Nomenclature* will necessarily be given to applications submitted in the form requested.

Full particulars of the bibliographical and other data required to be included in applications submitted to the International Commission will be found in the " Instructions to Authors " given on page 88 of Volume 1 of the present journal.

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PURCHASED

Edited by

FRANCIS HEMMING, C.M.G., C.B.E.

Secretary to the International Commission on Zoological Nomenclature

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BULLETIN OF ZOOLOGICAL NOMENCLATURE

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NOTICES PRESCRIBED BY THE INTERNATIONAL CONGRESS OF ZOOLOGY

The following notices are given in pursuance of decisions taken, on the recommendation of the International Commission on Zoological Nomenclature (see 1950, *Bull. zool. Nomencl.* **4** : 51-56, 57-59), by the Thirteenth International Congress of Zoology, Paris, July 1948 (see 1950, *Bull. zool. Nomencl.* **5** : 5-13, 131).

(a) Date of commencement by the International Commission on Zoological Nomenclature of voting on applications published in the "Bulletin of Zoological Nomenclature"

NOTICE is hereby given that normally the International Commission will start to vote upon applications published in the *Bulletin of Zoological Nomenclature* on the expiry of a period of six calendar months from the date of publication in the *Bulletin* of the applications in question. Any specialist who may desire to comment upon any of the applications published in the present Part (vol. 2, Part 5) of the *Bulletin* is accordingly invited to do so in writing to the Secretary to the Commission as quickly as possible and, in any case, in sufficient time to enable the communication in question to reach the Secretariat of the Commission before the expiry of the six-month period referred to above.

Notices prescribed by the International Congress of Zoology (*continued*)

(b) Notice of the possible use by the International Commission on Zoological Nomenclature of its plenary powers in certain cases

1. Notice is hereby given that the possible use by the International Commission on Zoological Nomenclature of its plenary powers, is involved in applications published in the present Part of the *Bulletin of Zoological Nomenclature* in relation to the following names :—

(1) *Titania* Meigen, 1800, and *Chlorops* Meigen, 1803 (Class Insecta, Order Diptera) and associated family names (Z.N.(S.)197).

(2) *Dorilas* Meigen, 1800, and *Pipunculus* Latreille, [1802-1803] (Class Insecta, Order Diptera) and associated family names (Z.N.(S.)221).

(3) *Tendipes* Meigen, 1800, and *Chironomus* Meigen, 1803 (Class Insecta, Order Diptera) and associated family names (Z.N.(S.)469).

(4) *Philia* Meigen, 1800, and *Dilophus* Meigen, 1803 (Class Insecta, Order Diptera) (Z.N.(S.)498).

(5) *Tylos* Meigen, 1800, and *Micropeza* Meigen, 1803 (Class Insecta, Order Diptera) and associated family names (Z.N.(S.)501).

2. Comments received in sufficient time will be published in the *Bulletin ;* other comments, provided that they are received within the prescribed period of six calendar months from the date of publication of the present Part will be laid before the International Commission on Zoological Nomenclature at the time of commencement of voting on the application concerned.

3. In accordance with the arrangement agreed upon at the Session held by the International Commission on Zoological Nomenclature in Paris in 1948 (see 1950, *Bull. zool. Nomencl.* **4** : 56) corresponding Notices have been sent to the journals " Nature " and " Science."

FRANCIS HEMMING,

Secretary to the International Commission on Zoological Nomenclature.

Secretariat of the
International Commission on
Zoological Nomenclature,
28, Park Village East, Regent's Park,
London, N.W.1, England.
24th April 1951.

REPORT ON THE PROCEDURE PROPOSED BY THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE TO PUT AN END TO THE CONFUSION IN THE NOMENCLATURE OF THE ORDER DIPTERA (CLASS INSECTA) RESULTING FROM THE CONTROVERSY REGARDING THE GENERIC NAMES PUBLISHED BY MEIGEN IN 1800 IN HIS "NOUVELLE CLASSIFICATION DES MOUCHES À DEUX AILES": FIRST INSTALMENT OF APPLICATIONS

By FRANCIS HEMMING, C.M.G., C.B.E.

(*Secretary to the International Commission on Zoological Nomenclature*)

(Commission's reference Z.N.(S.)191)

At their Session held in Paris in July, 1948 (Paris Session, 14th Meeting, Conclusion 44) (1950, *Bull. zool. Nomencl.* **4** : 552-558), the International Commission on Zoological Nomenclature had under consideration the continued state of confusion in the generic nomenclature of the Order Diptera (Class Insecta) arising in part out of the difficulty of determining what species should be regarded as being the type species of the genera established by Meigen (J.G.) in 1800 in his *Nouvelle Classification des Mouches à deux Ailes*, and in part out of the reluctance of some workers to accept the generic names in question.

2. The first of these difficulties was due, it was recognised, to the ambiguities of the ruling given in *Opinion* 46 in regard to the method to be adopted in determining the type species of genera, the names of which were published without any included species being cited by name. Accordingly, when considering the incorporation in the *Règles* of the rulings given in previously published *Opinions*, the Commission gave particular attention to the foregoing subject when they came to consider *Opinion* 46. Their object was to secure a procedure which could be readily applied and which was not marred by the self-contradictory features which had led to such great difficulties in applying the decision given in the foregoing *Opinion*. As will be seen from the *Official Record of the Proceedings of the Commission at its Paris Session* (1950, *Bull. zool. Nomencl.* **4** : 159–160, 346), the Commission agreed to recommend to the Congress, and the Congress approved, that in place of the provisions specified in *Opinion* 46 there should be inserted in the *Régles* a provision making it clear that, where, prior to 1st January, 1931, a generic name was published for a genus established (*a*) with an indication, definition or description, but (*b*) with no nominal species distinctly referred to it, the first nominal species referred to the genus by the same or another author is, or are, to be regarded as the sole originally included species and therefore that, where that author did not himself either designate or indicate that species or one of those species as the type species of the genus, the species in question are alone eligible for selection as the type species of that genus. It will be seen at once that the main feature of the foregoing provision lies in the substitution of a purely objective criterion for determining the type species of a genus established without cited included species for the subjective provision included in *Opinion*

46 that, in order that a species included by a later author may be eligible for selection as the type species of such a genus, that species must be capable of being "recognized from the original generic publication," a provision that could never lead to absolute finality for a type selection made for such a genus; moreover, the decision taken in Paris eliminates (as already noted) the contradiction between the provision quoted above and the later provision in *Opinion* 46 that "the first species published in connection with the genus becomes *ipso facto* the type." Thus under the decision taken in this matter by the Commission and the Congress in Paris, the major part of the area in dispute in regard to the generic names published by Meigen in 1800, disappears altogether. Under the Paris decision, all that it is necessary to do to ascertain the type species of any given generic name published by Meigen in 1800, is to examine Hendel's paper of 1908, and the immediately following literature and to ascertain therefrom what species was first included in the genus in question; if a species was then selected as the type species, that selection is to be accepted under the *Règles*, while if two or more species were then placed in the genus and none was selected as the type species, it is necessary only to ascertain which of those species was the first to be subsequently so selected.

3. While therefore there is no longer any technical difficulty in determining the type species of the Meigen (1800) genera, there remains the difficulty created by the reluctance felt by many dipterists to discard long-established and well known generic names published by Meigen in 1803 in favour of the "1800" names unearthed by Hendel in 1908. It appeared evident to the Commission, when it considered this matter in Paris, that the only means of putting an end to this long-drawn-out controversy would be by considering each of the rival pairs of names in turn and, having done so, in the light of representations submitted by specialists, to place on the *Official List of Generic Names in Zoology* whichever name appeared to have the greater following and on the *Official Index of Rejected and Invalid Generic Names in Zoology* the name which had the lesser following (the plenary powers being used to such extent as might be necessary for the foregoing purpose). The Commission further agreed that the decisions to be taken on these disputed Meigen names should be taken "on the basis of all available information relating to the degree of confusion to which the stabilisation or, as the case might be, the suppression of the Meigen (1800) names concerned would be likely to give rise and, in particular, of data regarding the relative use (i) in systematic literature, (ii) in the literature of applied biology, and (iii) in routine identifications carried out by entomological institutions, of the Meigen (1800) names in question and the corresponding Meigen (1803) or other names, in successive recent periods."

4. It was the hope of the Commission that the foregoing procedure would provide a fair and equitable basis for putting an end to the present state of confusion in dipterological literature, and the Commission agreed therefore to take all practicable steps to promote the submission of applications designed to secure a decision regarding the names to be accepted for the genera in question; the Commission decided further to reach decisions as rapidly as possible on applications so submitted. Already by the time of the Paris

Congress, two applications had been received by the Commission relating to generic names published by Meigen in 1800. The first of these applications (Z.N.(S.)197) was submitted by Dr. C. W. Sabrosky (U.S. National Museum, Washington, D.C.) and was designed to secure the validation, under the plenary powers, of the name *Chlorops* Meigen, 1803, by the suppression of the earlier name *Titania* Meigen, 1800 ; the second (Z.N.(S.)221), which was received from Mr. William F. Rapp, Jr. (then of the Department of Entomology, University of Illinois, Urbana, Ill.), was concerned to secure a similar validation of the name *Pipunculus* Latreille, [1802–1803], by the suppression of the earlier name *Dorilas* Meigen, 1800. During the last two and a half years three further applications have been received in regard to Meigen names. These are : (1) an application (Z.N.(S.)469) received from Dr. John Smart (Cambridge University) for the use by the International Commission of its plenary powers to validate *Chironomus* Meigen, 1803, by suppressing *Tendipes* Meigen, 1800 ; (2) an application (Z.N.(S.)498) received from Professor D. Elmo Hardy (University of Hawaii) for the addition of the name *Philia* Meigen, 1800, to the *Official List of Generic Names in Zoology* ; (3) an application (Z.N.(S.)501) received from Professor Martin L. Aczél (University of Tucuman, Argentina) for the addition of the name *Tylos* Meigen, 1800, to the *Official List of Generic Names in Zoology*, and a counter-application received from Dr. John Smart for the use by the International Commission of its plenary powers to suppress the foregoing generic name and to validate the name *Micropeza* Meigen, 1803. In accordance with the decision taken by the Commission at its Paris Session, this group of applications was among the first to be sent to the printer for publication in Volume 2 of the *Bulletin of Zoological Nomenclature*.

5. As will be seen from the decision taken in Paris in regard to the procedure to be followed in this matter, the International Commission is most anxious to assist in securing settlements regarding the names to be used for these genera on whatever basis may be found to command the widest measure of support and is therefore calculated to put an end to confusion and to restore uniformity of practice.

APPLICATION FOR THE USE OF THE PLENARY POWERS TO VALIDATE THE GENERIC NAME "CHLOROPS" MEIGEN, 1803 (CLASS INSECTA, ORDER DIPTERA)

By C. W. SABROSKY

(United States Department of Agriculture, Bureau of Entomology and Plant Quarantine, Washington, D.C.)

(Commission's reference Z.N.(S.)197)

The name *Titania* Meigen is one of the disputed names of Meigen, 1800, declared available in *Opinions* 28 and 152. (For *facsimile*, see 1945, *Bull. zool. Nomencl.* **1** : 155–156). Hendel (1908, *Verh. zool.—bot. Ges. Wien*, **58** : 63) who resurrected the Meigen 1800 paper, stated that *Titania* was equal to *Chlorops* Meigen, 1803, and he was followed in this by Coquillett (1910, *Proc. U. S. Nat. Mus.* **37** : 499–647) and Stone (1941, *Ann. ent. Soc. Amer.* **34** : 415).

Except for mere mention in a few lists, and in general papers such as those of Hendel and Stone, the name *Titania* has never been applied in any taxonomic work on the CHLOROPIDAE in the 145 years since its appearance. The name *Chlorops*, on the other hand, has been used constantly since 1803 for a great number of species in every faunal region of the world, and has given its name to the family CHLOROPIDAE. Change of the name to *Titania* would be confusing, undesirable and, in view of the patent error involved, as explained below, particularly inappropriate.

The type species of *Chlorops* Meigen, 1803, is considered by the writer to be *Chlorops pumilionis* (Bjerkander 1778) (= *Musca pumilionis* Bjerkander, 1778), by selection by Westwood (1840), although most workers have cited the selection of *Chlorops laeta* Meigen, 1830, by Coquillett (1910). The discussion of this question is presented by Sabrosky (1941, *Ann. ent. Soc. Amer.* **34** : 735–765). (For an extract from this paper, see Annexe 1.)

HISTORY OF THE NAME *TITANIA* MEIGEN

Meigen, 1800 : *Titania* erected. "7 espèces," none mentioned by name.

Hendel, 1908(: 63) : *Titania*, 1800 = *Chlorops* Meigen, 1803.

Coquillett, 1910 (*Proc. U. S. nat. Mus.* **37**) : *Titania* = *Chlorops* ; type species of both, *Chlorops laeta* Meigen.

Hendel, 1910 (*Wien ent. Ztg.* **29** : 312) : suggested that *Titania* was more like *Gaurax* than *Chlorops* (two quite different genera, in different subfamilies !)

Duda, 1933 (Chloropidae, in "*Die Fliegen der palaearktischen Region*," Lfg. **70** : 147) : used *Chlorops*.

Stone (1941, *Ann. ent. Soc. Amer.*, **34** : 415) : *Titania* recognized, with *Chlorops* as synonym. Type species, *Chlorops laeta* Meigen.

Sabrosky (1941): *Chlorops* recognized. *Titania* a *genus dubium*, on zoological grounds. (For an extract from this paper, see Annexe 2.)

Titania Meigen, 1800 versus *Chlorops* Meigen, 1803.

Hendel (1908 : 63) stated that these names applied to the same genus. The writer believes that this is an untenable position zoologically, for the following reasons :—

(1) The description of *Titania* will not apply to a single species of *Chlorops*. Hendel (1910) quickly saw his error and his 1908 reference must have been ill-considered.

(2) There is no basis whatsoever for associating the brief descriptions of *Titania* Meigen, 1800, and *Chlorops* Meigen, 1803. The former was said to have an oblong, obtuse distal antennal segment, with a bearded arista (which fits no *Chlorops* !) ; the latter, an almost circular segment with naked arista.

(3) Assuming that the group represented by the name *Titania* Meigen, 1800, appeared somewhere in Meigen's 1803 paper, a comparison of the descriptions shows that there is only one which is almost identical (*Chamaemyia*), and it is strange indeed that Hendel did not notice it. The three descriptions can be compared as follows :—

Chlorops Meigen, 1803	*Titania* Meigen, 1800	*Chamaemyia* Meigen, 1803
Die Fühlhörner zweigliederig	Antennes à deux articulations	Die Fühlhörner senkrecht, zweigliederig
das vorderste Glied fast kreisrund, flach	*la seconde oblongue, obtuse*	*das vorderste Glied länglich, flach*
mit nakkter Borste an der Wurzel	*garnie à la base d'un poil barbu*	*mit einer haarigen Borste an der Wurzel*
Die Stirne breit, ungestreift	Front large	Die Stirne breit, ungestreift
Der Hinterleib flach, nakkt	Corps glabre, plat	Der Hinterleib feinhaarig oder nakkt
Die Flügel parallel	Ailes croisées	Die Flügel parallel

It is obvious that the non-essential details are alike for the three ; in the only critical points given, *Chlorops* and *Titania* are dissimilar, but *Titania* and *Chamaemyia* are the same. The two new points in the 1803 description ("senkrecht" antennae and "ungestreift" front) were applied to several genera in the 1803 paper but not in the 1800 paper, and thus were characters that Meigen added apparently as the result of later study. Even though it would appear that a mistake was made, it would certainly serve no good purpose even to consider replacing *Chamaemyia*, nor would any good result from overthrowing the properly established and well-known *Chlorops*.

Therefore, (1) because the name *Titania* has never been applied in the entire literature on CHLOROPIDAE ;

(2) because its adoption would overthrow a long established name for

a large and cosmopolitan genus used as the root of the family name; and

(3) because the name *Titania* was patently associated with the wrong genus of Meigen 1803.

It is respectfully requested that the International Commission on Zoological Nomenclature:

(i) acting in virtue of their plenary powers should suspend the *Règles* and:
  (a) suppress the name *Titania* Meigen, 1800, for all purposes other than Article 34;
  (b) validate the name *Chlorops* Meigen, 1803, and
  (c) designate *Musca pumilionis* Bjerkander, 1778, as the type species of *Chlorops* Meigen, 1803;

(ii) place the name *Chlorops* Meigen, 1803, with the above species as type species, on the *Official List of Generic Names in Zoology.*

Annexe 1.

Extract from a paper by Sabrosky (C.W.), 1941, *Ann. ent. Soc. Amer.* **34**: 740

Chlorops Meigen, 1803, Mag. f. Insekt. (Illiger) **2**, p. 278. No species. 1830, Syst. Berschr., **6**, p. 140. Sixty species. Type, *Chlorops pumilionis* (Bjerkander) (= *Musca pumilionis* Bjerkander 1778) as *Chlorops lineata* Fabricius, the twenty-first species. (By designation by Westwood, 1840, p. 147, referred to in error as "*C. pumilionis* L."). Synonyms: *Oscinis* Latreille, 1804 (isogenotypic). *Cotilea* Lioy, 1864.

For many years, *Chlorops* and *Oscinis* were regarded as synonymous. In his studies of the Palaearctic Chloropidae, however, Duda (1933) separated them on the character of the haired vs. bare mesopleura of what he regarded as their respective genotypes. The controversy affects the generic name of hundreds of species in all faunal regions.

Coquillett (1910), Malloch (1913, 1931, 1938), Duda (1933) and others have accepted *Chlorops laeta* Meigen as the genotype of *Chlorops*, by designation of Rondani (1856, p. 125). They have overlooked the prior designation by Westwood (1840) cited above. Under the Code (*Opinion* 71) Westwood's designations are available if the species were originally included. The species in question *C. pumilionis*, was included by Meigen in the synonymy of *C. lineata* (Fabricius), and was also represented in Meigen (1830) by the synonymous names, *C. nasuta* Schrank, the fifth species, and *C. taeniopus* Meigen, the ninth species. The present synonymy as accepted by Duda (1935, p. 192) is as follows:

Chlorops pumilionis Bjerkander, 1778 (*Musca*)
= *Musca lineata* Fabricius, 1781,

= *Musca nasuta* Schrank, 1781.
= *Chlorops taeniopus* Meigen, 1830.

It is true that Westwood credited *pumilionis* to Linnaeus on p. 147, but this is an apparent lapse, for in other parts of his work (e.g. on p. 574) he, discussed the species and referred to it properly as of Bjerkander, 1778.

Since *Chlorops* and *Oscinis* are found to have the same species as genotypes, the latter name must fall as an absolute synonym. Of recent workers, both Balachowsky and Mesnil (1935, Les Insectes nuisibles aux plantes cultivées, I, p. 935) and Collin (1939, Ent. Monthly Mag., LXXV, p. 152) have recognized this fact. *Chlorops* in the sense of Duda (including species with hairs on the mesopleura, as in *laeta*) is thus left without a name. No name will be proposed here, however, because the validity of the grouping is doubtful. Collin (1939, loc. cit.) comments that " Duda's character for the subdivision of the genus *Chlorops* does not hold good in all specimens."

Annexe 2.

Extract from a paper by Sabrosky (C.W.), 1941, *Ann. ent. Soc. Amer.* **34** : 747–748.

Titania Meigen, 1800, Nouvelle Classification, p. 35. No species. *Genus dubium.*

Many authors (e.g. Hendel, 1908 ; Coquillett, 1910) have regarded *Titania* 1800 as identical with *Chlorops* Meigen, 1803, but Hendel (1910, Wien. Ent. Zeit., XXIX, p. 312) suggested that it might be *Gaurax*. From the brief description (" la seconde [antennal segment] oblongue "), it seems not to be *Chlorops* s.str. and probably not *Gaurax*. Since the guesses include two such distinct genera in opposite subfamilies, it seems futile as well as dangerous to try to place the name. If we follow the dictum that " no species is available as genotype unless it can be recognized from the original generic publication " (*Opinion* 46), the name *Titania* can never be used, for the description is unrecognizable as it stands.

Under the rule of the first reviser, we should probably have to accept the action of Hendel, 1908 (Verh. zool.-bot. Ges. Wien LVIII, p. 63), who stated that *Chlorops* = *Titania*. The genotype of *Chlorops* would thereupon become *ipso facto* the genotype of *Titania* (Article 30, II, f) . and the name *Chlorops* would fall as an isogenotypic synonym. Hendel's association of generic names was based in large part upon a comparison of the wording of the generic descriptions in the 1800 and 1803 papers. However, when we compare the descriptions of *Chlorops* and *Titania*, it is difficult to understand how Hendel reconciled them. Under *Titania*, Meigen wrote : " Antennes à deux articulations : la seconde oblongue, obtuse, garnie à la base d'un poil barbu " (a *bearded* bristle). The description of *Chlorops* 1803 on the other hand is as follows : " Die Fühlhörner zweigliederig : das Vorderste Glied fast kreisrund, flach, mit nakkter Borste an der Wurzel." The error of associating a genus having an oblong distal antennal segment and plumose arista with one having a rounded antennal segment and naked arista was later recognized by Hendel himself (190, op. cit.), when he suggested that *Titania* was more like *Gaurax*. Actually there is little evidence that it is even a Chloropid. The safest course is to regard it as unrecognizable and a *genus dubium*.

ON DR. C. W. SABROSKY'S PROPOSAL RELATING TO THE GENERIC NAMES " TITANIA " MEIGEN, 1800, AND " CHLOROPS " MEIGEN, 1803 (CLASS INSECTA, ORDER DIPTERA)

By FRANCIS HEMMING, C.M.G., C.B.E.

(*Secretary to the International Commission on Zoological Nomenclature*)

(Commission's reference Z.N.(S.)197)

It should be noted that the application relating to the generic names *Titania* Meigen, 1800, and *Chlorops* Meigen, 1803, submitted to the International Commission on Zoological Nomenclature by Dr. C. W. Sabrosky, was received in November 1945, and was therefore prepared long before the establishment by the International Congress of Zoology either of the *Official Index of Rejected and Invalid Generic Names in Zoology* or of the *Official List of Specific Trivial Names in Zoology*. If the Commission approve the proposals submitted by Dr. Sabrosky, the action which, under the decisions referred to above, it will be necessary to take will be somewhat more extensive than that indicated in the application, for in addition it will be necessary (1) to place the name *Titania* Meigen, 1800 (consequent upon its suppression under the plenary powers) on the *Official Index of Rejected and Invalid Generic Names in Zoology*, and (2) to place the trivial name *pumilionis* Bjerkander, 1778 (as published in the binominal combination *Musca pumilionis*) on the *Official List of Specific Trivial Names in Zoology*. The generic names *Titania* and *Chlorops* are both feminine in gender.

ON THE PROPOSED SUPPRESSION UNDER THE PLENARY POWERS OF THE NAME "TITANIA" MEIGEN, 1800, IN FAVOUR OF THE NAME "CHLOROPS" MEIGEN, 1803 (CLASS INSECTA, ORDER DIPTERA)

By H. OLDROYD

(*Department of Entomology, British Museum (Natural History), London*)

(Commission's reference Z.N.(S.)197)

(Extract from a letter dated 28th September, 1950)

Use of the names Chlorops & Titania

The name *Chlorops* is used in the British Museum collection, and generally. I do not know of any author who uses *Titania.*

I think there is no doubt of the fact that *Chlorops* is *Titania.* The later (German) description is almost an exact translation of the earlier French. Neither can honestly be recognized without reference to later work. In 1830 Meigen himself claims *Chlorops* as an earlier name for *Oscinis* and thereby identifies it retrospectively.

ON THE PROPOSED SUPPRESSION OF "TITANIA" MEIGEN, 1800, AND VALIDATION OF "CHLOROPS" MEIGEN, 1803 (CLASS INSECTA, ORDER DIPTERA) UNDER THE PLENARY POWERS

By JOHN SMART, M.A., D.Sc.

(*University of Cambridge, Department of Zoology, Cambridge*)

(Commission's reference Z.N.(S.)197)

(Extract from a letter dated 2nd October, 1950)

I am in favour of the suppression of *Titania* Meigen, 1800, and the validation of *Chlorops* Meigen, 1803.

PROPOSED USE OF THE PLENARY POWERS TO VALIDATE THE GENERIC NAME " PIPUNCULUS " LATREILLE, [1802-1803] (CLASS INSECTA, ORDER DIPTERA)

By WILLIAM F. RAPP, Jr.

(*Department of Biology, Doane College, Crete, Nebraska, U.S.A.*)

(Commission's reference Z.N.(S.)221)

I desire to petition the International Commission on Zoological Nomenclature to use their plenary powers for the purpose of suppressing the generic name *Dorilas* Meigen, 1800 (*Nouv. Class. Mouches* : 31) and validating the generic name *Pipunculus* Latreille, [1802-1803] (*Hist. nat. Crust. Ins.* **3** : 463) Class Insecta, Order Diptera, Family PIPUNCULIDAE). As it is a well known fact that the name *Dorilas* Meigen remained lost to zoological science for over one hundred years, I believe that it would avoid confusion if this name were to be suppressed, thus rendering the name *Pipunculus* Latreille available for the genus in question. I consider that the name *Pipunculus* should be allowed to remain in effective usage because of the vast amount of economic and taxonomic literature which has been written about " Pipunculus " and " Pipunculidae." Furthermore, all of our current textbooks of entomology use the name PIPUNCULIDAE. I believe that this matter should be ruled upon as soon as possible, in order to attain a uniformity of usage in this matter, since both the family names PIPUNCULIDAE and DORILAIDAE are in current usage. At the present time the great bulk of entomologists are using the term PIPUNCULIDAE, especially those workers who are interested in the economic phases of species of this family, while only a small minority of workers recognize the name DORILAIDAE.

I therefore ask the Commission (1) to use their plenary powers to suppress the name *Dorilas* Meigen, 1800, for the purposes of the Law of Priority but not for those of the Law of Homonymy, and to validate the name *Pipunculus* Latreille, [1802-1803], (2) to place the name *Pipunculus* Latreille, [1802-1803], so validated and with *Pipunculus campestris* Latreille, [1802–1803] (*Hist. nat. Crust, Ins.* **3** : 463) as type species, on the *Official List of Generic Names in Zoology*, (3) to place the trivial name *capestrism* Latreille, [1802-1803] (as published in the binominal combination *Pipunculus campestris*) on the *Official List of Specific Trivial Names in Zoology*, and (4) to place the name *Dorilas* Meigen, 1800, suppressed as recommended under (1) above, on the *Official Index of Rejected and Invalid Generic Names in Zoology*. The gender of both the generic names concerned is masculine.

ON THE PROPOSAL THAT THE NAME "DORILAS" MEIGEN, 1800, BE SUPPRESSED UNDER THE PLENARY POWERS IN FAVOUR OF "PIPUNCULUS" LATREILLE, [1802-1803] (CLASS INSECTA, ORDER DIPTERA)

By H. OLDROYD

(*Department of Entomology, British Museum (Natural History), London*)

(Commission's reference Z.N.(S.)221)

(Extract from a letter dated 28th September, 1950)

The names PIPUNCULIDAE and DORILAIDAE (or DORYLAIDAE) have been dealt with by Collin (1945, *Ent. mon. Mag.* **81** : 1–6), and I do not think that I can add any more argument to that. We in the Museum always use PIPUNCULIDAE. Hardy, the chief present-day worker on this family, uses DORILAIDAE, for the reasons given by Collin.

My own view, as you know, is that the revival of these names is quite without scientific value and that the effect of introducing them is wholly obstructive. I think the greatest contribution to the stabilisation of nomenclature in Diptera would be to annul the lot of them.

OBJECTION TO THE PROPOSAL THAT THE NAME " DORILAS " MEIGEN, 1800, SHOULD BE SUPPRESSED AND " PIPUNCULUS " LATREILLE, [1802-1803] (CLASS INSECTA, ORDER DIPTERA) VALIDATED IN ITS PLACE

By ALAN STONE

(*United States Department of Agriculture, Bureau of Entomology and Plant Quarantine, Washington, D.C.*)

(Commission's reference Z.N.(S.)221)

(Extract from a letter dated 13th October, 1950)

Thank you for your letter concerning the generic names *Dorilas* and *Pipunculus*. I am pleased to have this opportunity to comment on these names prior to publication of the case.

It should first be pointed out, I think, that the genus *Dorilas* and the entire family to which it belongs, are of little importance to the agriculturist or general biologist, being of minor economic importance as parasites of Homoptera (see Oman, " The Nearctic Leafhoppers," 1949, p. 17) and are not used as experimental animals in laboratories. It is also a relatively small genus and family, Aczél (1948) listing 90 species of *Dorilas* out of 388 DORILAIDAE for the world. It does serve as the basis for a family name, so comes into somewhat more general use because of this. This raises the question of reducing family name changes by permitting a family name that is established to be retained if the generic name goes into synonymy. We would then keep the family name PIPUNCULIDAE but use the generic name *Dorilas*. I see no serious objection to this except that the family name DORILAIDAE has come into considerable use in recent years. If a ruling permitting this could be passed before taking up these Meigen 1800 names, it would greatly reduce the need for suspending these names and would be most welcome, on that account, to the supporters of priority.

Before 1908 the name *Dorilas* was used scarcely, if at all. Between 1908 and 1935 it was used occasionally. Kertész, in 1910, used the family name DORYLAIDAE [sic] and catalogued the species of the world, and in 1912 and 1915, he described a number of species in *Dorylas*. Becker treated several species under the same name in 1915. In 1935 Sack, *in* Lindner, *Die Fliegen der Palaearktischen Region*, used the name DORYLAIDAE and placed 74 species in the genus *Dorylas*. Hendel, 1928, *Die Tierwelt Deutschlands*, and *Seguy*, 1937, *Faune de France*, used the family name DORILAIDAE.

The two leading workers in the family at the present time, Martin Aczél and D. Elmo Hardy, use the family name DORILAIDAE and the generic name *Dorilas*, Hardy having changed from *Pipunculus* to *Dorilas* in 1940. Their works include Aczél's " Grundlagen einer Monographie der Dorilaiden " (163 pp.) 1948, and Hardy's " A Revision of the Nearctic Dorilaidae " (230 pp.) 1943 and " The African Dorilaidae " (80 pp.) 1949, all major contributions on the family. It can be safely stated that the name *Dorilas* is firmly established in the literature by these works. Determinations in this genus made at the United States National Museum since 1940 and by Aczél and Hardy, the two leading specialists, bear the name *Dorilas*. It might be noted that in the past ten years, since the Division of Insect Identification here adopted the use of the Meigen 1800 names, the dipterists here made 110,341 determinations. It can be expected that a considerable proportion of these determinations, going to all parts of the world, involved Meigen 1800 names.

It does not seem necessary or advisable to suppress *Dorilas* in favour of *Pipunculus* because : (1) In doing so those who felt morally obliged to follow the International Rules of Zoological Nomenclature, the *Opinions* concerning the Meigen 1800 names, and the principle of priority would be penalized for acting legitimately. (2) The name has been used in standard reference works on the families of Diptera, a catalogue to the world species, major revisions for the Palaearctic, Nearctic, and Ethiopian regions, a key to the species of Formosa, and a basic world revision of the genera. (3) The name is not of enough importance to warrant suspension since it is of very little interest, except to the systematic entomologists who can readily adapt themselves to a name change established as necessary 42 years ago.

This is, I hope, the information that you wish. I have not attempted a statistical, quantitative analysis of the literature, since this would involve much more time than I can afford in view of the inadequacy of present catalogues. I feel that the requirements for application under suspension of rules, as suggested by Sabrosky and Sailer (Science **107** : 543–544, 1948) are essential if we are to avoid undue use of the plenary power of the Commission and I do not think that it can possibly be demonstrated that strict application of the rules would result in far-reaching and substantial confusion in the taxonomic use of names and/or in a lamentable change that would greatly confuse the literature of a related field. The name *Dorilas* is legitimate, it has been accepted by the most active workers in the family, and it is not of enough importance outside of taxonomic use to cause more than minor disturbance when replacing *Pipunculus*.

PROPOSAL THAT THE NAME " DORILAS " MEIGEN, 1800, SHOULD BE RETAINED AND THE NAME " PIPUNCULUS " LATREILLE, [1802-1803] (CLASS INSECTA, ORDER DIPTERA) SHOULD BE TREATED AS A SYNONYM

By D. ELMO HARDY

(*University of Hawaii, Agricultural Experiment Station, Honolulu, Territory of Hawaii*)

(Commission's reference Z.N.(S.)221)

(Extract from a letter dated 19th October, 1950)

I was greatly pleased to receive your letter of 1st October, 1950.

I feel that it is most unfortunate that an application has been submitted to the Comission to suppress *Dorilas* in favor of *Pipunculus*. Dr. Aczél and I have been working under the illusion that this matter had definitely been settled and that we had reached stability at least in the use of *Dorilas* over *Pipunculus*. As far as I know Mr. Collin of Newmarket is the only dissenter in regard to this question. I certainly agree with Dr. Alan Stone (letter to you dated 13th October, 1950) that " it does not seem necessary or advisable to suppress *Dorilas* in favor of *Pipunculus*." I know that Dr. Aczél also takes this stand. I heartily recommend that the Commission take the opposite action and place the name *Dorilas* Meigen (based upon *Pipunculus compestris* Latreille) on the *Official List of Generic Names in Zoology*, suppressing *Pipunculus* Latreille (based upon the same type species) as a synonym of *Dorilas*.

I believe Dr. Stone's letter has adequately covered the main objections to the change back to *Pipunculus*. At this time it certainly would result in much more confusion, since the bulk of the literature pertaining to this group has used the name *Dorilas*. In order to make Dr. Stone's letter more complete, Dr. Aczél's papers which use the family name DORYLAIDAE and the generic name *Dorylas* are as follows (it should be noted that Dr. Aczél has recently dropped the Becker emmendation of the generic name, and has corrected it to *Dorilas*). [*The titles given by Professor Hardy at this point in his letter are here omitted because later a fuller list was received from Dr. Aczél.*]

It should be noted also that Lindner's *Die Fliegen der Palaearktischen Region*, Lief **93**(32) : 1–5 7,published in 1935 used the names DORYLAIDAE and *Dorylas*. Kertész also used these names in his " Contribution of the Knowledge of the Dorylaidae," *Ann. Hist. nat. Mus. nat. Hung.*, **13** : 386–392, 1915.

My own publications in which I have used the names DORILAIDAE and *Dorilas* are as follows :—

1940, Dorylaidae. Notes and Descriptions, *J. Kansas ent. Soc.* **13** : 101-114.
1943, A Revision of the Nearctic Dorilaidae, *Univ. Kansas sci. Bull.* **29** : 1-231.
1946, Nomenclature Notes on the Family Dorilaidae, *J. Kansas ent. Soc.* **19** : 135-137
1947, Notes and Descriptions of Dorilaidae, *J. Kansas ent. Soc.* **20** : 146-153,

1948, Notes and Descriptions of Dorilaidae, Part II, *J. Kansas ent. Soc.* **21** : 89-91.

1948, New and Little Known Neotropical Dorilaidae, *J. Kansas ent. Soc.* **21** : 124-133.

1949, Neotropical Dorilaidae Studies, Part I, *Psyche* **55** : 1-15.

1948, New and Little Known Dipters in the California Academy of Science Collection, *The Wasmann Collector* **7** : 129-137.

1949, The African Dorilaidae, *Mém. Inst. Roy. Sci. nat. Belgique* (2nd ser.) **36** : 1-80.

1949, New Dorilaidae from the Belgian Congo, *Bull. Inst. Roy. Sci. nat. Belgique* **25** (39) : 1-10.

1950, Exploration du Parc Nat. Albert, Miss. G. F. De Witte (1933-1935), Dorilaidae, Dipters, *Inst. Parcs nat. Congo Belge* **62** : 1-53.

The following are in the hands of the printer due for publication in the near future :—

"Neotropical Dorilaidae Studies, Part 2," 20 manuscript pages, for publication in part 3 of the *Revista de Entomologia* for 1950.

"Notes on the Shannon Types of Dorilaidae from Argentina," 8 manuscript pages for publication in *Acta zoologica Lilloana.*

◆

In the past ten years I have used the name *Dorilas* in all my identifications of these flies. In the course of my studies I have examined collections from most of the major museums of the world and the name *Dorilas* is now well established in museums throughout the United States, Europe, the Ethiopian, Oriental and Pacific Regions.

SUPPORT FOR THE PROPOSAL THAT THE NAME "DORILAS" MEIGEN, 1800, SHOULD BE RETAINED AND THAT THE NAME "PIPUNCULUS" LATREILLE, [1802-1803] (CLASS INSECTA, ORDER DIPTERA) SHOULD BE TREATED AS A SYNONYM

By MARTIN L. ACZÉL

(*Institute of Entomology, National University of Tucumán, Tucumán, Argentina*)

(Commission's reference Z.N.(S.)221)

(Extract from a letter dated 6th November, 1950)

Thank you for your letter dated 25th October, 1950. I am pleased to have the opportunity to comment on the generic names *Dorilas* and *Pipunculus*, as I feel it most unfortunate that an application has been submitted to the Commission to suppress *Dorilas* in favor of *Pipunculus*, and not to suppress *Pipunculus* in favor of *Dorilas*, which appears to be reasonable.

I know and support the proposals to be submitted by Dr. Stone and Professor Hardy. As Professor Hardy has pointed out, we have been working under the illusion that this matter had been definitely settled and that we can use *Dorilas* over *Pipunculus*, following the International Rules of Zoological Nomenclature, the *Opinions* concerning the Meigen (1800) names and the principle of priority.

I feel it superfluous to repeat the arguments of Dr. Stone and Professor Hardy with which I wholly agree ; I want but to point out that the change back to *Pipunculus* would certainly cause much more confusion than the placing of the name *Dorilas* on the *Official List of Generic Names in Zoology*, since in the past ten years the using of this name, in preference of *Pipunculus*, was predominate. During this period among the authors, who were continuing the use of the name *Pipunculus*, only Mr. Collin of Newmarket calls for mention, having been in the years 1929–39 one of the leading workers in the family, with C. H. Curran, Th. Becker and P. Sack. As I know, he has written in the last ten years only some twelve pages on DORILAIDAE, while during this period Professor Hardy and I have been publishing revisions, catalogues and major contributions on this family. In order to make Professor Hardy's letter more complete, my papers in which I have used the names DORILAIDAE and *Dorilas* are as follows :—

1938, Die Verbreitung der Dorylaiden im hist. Ungarn., *Fragmenta faunistica Hungarica*, Budapest **1** : 35-36.

1939, Das System der Familie Dorylaidae, *Zool. Anz.* **125** : 15-23.

1939, Die Untergattung Dorylomorpha m. von Tömösvaryella m., *Zool. Anz.* **125** : 49-69

1939, Beckerias pannonicus, eine neue Gattung und Art der Dorylaiden, *Zool. Anz.* **126** 191-195.

1940, Vorarbeiten zu einer Monographie der Dorylaiden, *Zool. Anz.* **132** : 149-169.

1943, Sammelreferat der bionomisch-ökologischen Literatur über Dorylaiden, ferner über die Morphologie der jüngeren Entwicklungsstadien (Ei, Larva, Puparium), *Deutsch. ent. Z.* **1943** : 1-27.

1944, Die Gattung Tömösvaryella Acz., *Ann. hist. nat. Mus nat. Hungar.* (Pars zool.) **37** : 75-130.

1948, Grundlagen einer Monographie der Dorylaiden, *Acta zool. Lilloana*, Tucumán, **6** : 5-168.

It should be noted that in 1948 I dropped the Kertész 1910 (nec Becker) emendation of the generic name to *Dorylas*, which I had previously used, following the majority of the Central European dipterists: Becker, Séguy, Sack, Enderlein, etc.

In the past ten years I have used consequently the name *Dorilas* in all my identifications on these flies.

It should be also noted that, in addition to the monographic work of P. Sack (1935), C. Kertész also used these names in the following papers :—

1910, *Catalogus Dipterorum*, Budapest **7** : Syrphidae, Dorylaidae, etc.

1912, " H. Sauter's Formosa Ausbeute : Dorylaidae," *Ann. Hist.* nat. *Mus. nat. Hungar.* (Pars zool.) **10** : 285-299 (emendation).

1915, " Contributions to the knowledge of the Dorylaidae," *loc. cit.* **13** : 386-392.

Th. Becker in 1915 dropped also *Pipunculus* in favor of *Dorilas*.

In this way the name of *Dorilas* is now well established in the museums and in the literature throughout all the zoo-geographical regions.

PROPOSED USE OF THE PLENARY POWERS TO VALIDATE THE NAME "PIPUNCULUS" LATREILLE [1802-1803], AND TO SUPPRESS THE NAME "DORILAS" MEIGEN, 1800 (CLASS INSECTA, ORDER DIPTERA)

By JOHN SMART, M.A., D.Sc.

(*University of Cambridge, Department of Zoology, Cambridge*)

(Commission's reference Z.N.(S.)221)

The object of the present application is to seek the use, by the International Commission on Zoological Nomenclature, of its plenary powers for the purpose of validating the name *Pipunculus* Latreille [1802–1803], by suppressing the name *Dorilas* Meigen, 1800 (Class Insecta, Order Diptera).

The following are the relevant particulars relating to the names involved in this case :—

(1) *Dorilas* Meigen, 1800, *Nouv. Class. Mouches* : 31

No named species was cited by Meigen as belonging to this genus The first author to cite a species by name as belonging to this genus was Coquillet (1910, *Proc. U.S. nat. Mus.* **37** (No. 1719) : 535), who so cited *Pipunculus campestris* Latreille, [1802–1803] (*in* Sonnini's Buffon, *Hist. nat. gén. partic. Crust. Ins.* **3** : 463), which also he designated as the type species of this genus.

(2) *Pipunculus* Latreille [1802–1803], *in* Sonnini's Buffon, *Hist. nat. gén. partic. Crust. Ins.* **3** : 463.

Latreille placed in this genus only *Pipunculus campestris* Latreille, [1802–1803], which is therefore the type species by monotypy.

(3) *Microcera* Meigen, 1803, *Mag. f. Insektenk.* (Illiger) **2** : 273.

Meigen did not designate a type species but later (1824 : 19) he stated that the generic name *Microcera* was a synonym of *Pipunculus*. The first author definitely to select a type species for this genus was Coquillet (1910, *loc. cit.* **37** (No. 1719) : 569), who so selected *Pipunculus campestris* Latreille, [1802–1803].

The generic name *Dorilas* was completely ignored by Dipterists until in 1910 Hendel synonymised it with *Microcera* and *Pipunculus*.

Pipunculus campestris Latreille, the type species of each of the three foregoing nominal genera, is a well-recognized species.

The genus *Pipunculus* Latreille is the type genus of a very distinctive, but from the economic standpoint unimportant, family of Diptera, the, PIPUNCULIDAE—the Big-Headed Flies. This genus and family are universally known by these names, except by those specialists who, following Coquillet, have used the generic name *Dorilas* (or its emended form *Dorylas*) and the family name DORILAIDAE (or DORYLAIDAE).

It is clearly very desirable that an end should be put as soon as possible to the present divergence of practice in this matter by an authoritative ruling as to which of these names should be used. Having regard to the preponderant use in literature of the name *Pipunculus* during the last century and a half, I am of the opinion that the best course would be to establish that name in preference to the name *Dorilas*. I accordingly suggest that the International Commission on Zoological Nomenclature should :—

(1) use its plenary powers (*a*) to suppress the name *Dorilas* Meigen, 1800, for the purposes of the Law of Priority but not for those of the Law of Homonymy, and (*b*) to validate the name *Pipunculus* Latreille, [1802–1803];

(2) place the generic name *Pipunculus* Latreille, [1802–1803] (type species, by monotypy: *Pipunculus campestris* Latreille, [1802–1803]) on the *Official List of Generic Names in Zoology*;

(3) place the undermentioned generic names on the *Official Index of Rejected and Invalid Generic Names in Zoology* :—

    (*a*) *Dorilas* Meigen, 1800 (as proposed, under (1) (*a*) above, to be suppressed under the plenary powers);

    (*b*) *Microcera* Meigen, 1803 (an objective synonym of *Dorilas* Meigen, 1800, and *Pipunculus* Latreille, [1802–1903]);

(4) place the trivial name *campestris* Latreille, [1802–1803] (as published in the binominal combination *Pipunculus campestris*) on the *Official List of Specific Trivial Names in Zoology*.

PROPOSED USE OF THE PLENARY POWERS TO VALIDATE THE GENERIC NAME "CHIRONOMUS" MEIGEN, 1803 (CLASS INSECTA, ORDER DIPTERA)

By JOHN SMART, M.A., D.Sc.

(*University of Cambridge, Department of Zoology, Cambridge*)

(Commission's reference Z.N.(S.)469)

The object of the present application is to secure the use by the International Commission on Zoological Nomenclature of its plenary powers for the purpose of providing a valid foundation for the use of the generic name *Chironomus* Meigen, 1803 (Class Insecta, Order Diptera), a name of exceptional importance in view of its deeply entrenched use in medical and other literature.

The following are the relevant particulars relating to the names involved in this case :—

(1) *Tendipes* Meigen, 1800, *Nouv. Class. Mouches* : 17

No named species was cited by Meigen as belonging to this genus. The first author to cite named species as belonging to this genus was Hendel in 1908 (*Verh. zool.-bot. Ges. Wien* **58** : 49). One of the three species so cited was *Tipula plumosa* Linnaeus, 1758 (*Syst. Nat.* (ed. 10) **1** : 587). Two years later this species was selected as the type species by Coquillet (1910, *Proc. U.S. nat. Mus.* **37** (No. 1719) : 612).

(2) *Chironomus* Meigen, 1803, *Mag. f. Insektenk.* (Illiger) **2** : 260.

Three named species were included by Meigen in this genus. The first of these species, *Tipula plumosa* Linnaeus, was selected as the type species by Latreille in 1810 (*Consid. gén. Crust. Arach. Ins.* : 442).

Latreille ([1802–1803], *in* Sonnini's Buffon, *Hist. nat. gén. partic. Crust. Ins.* **3** : 425) mentioned the name *Tendipes* in discussing the subdivision of the genus *Tipula* Linnaeus, 1758, thus : "Exemples. *Tipula plumosa.* Lin.—*Tipula culiciformis* De Geer.—Les genres *helea, tendipes* de Meigen." Apart from this one reference by Latreille, the generic name *Tendipes* was completely ignored by Dipterists, until in 1908 Hendel synonymised it with *Chironomus* Meigen, 1803, mentioning at the same time the names of the three originally included species of the latter genus.

It must be admitted that Hendel was correct in associating *Tendipes* with *Chironomus* and *Helea* with *Ceratopogon* rather than *vice versa.* There is no doubt but that of the two species mentioned, *plumosa* fits better into the diagnosis of *Tendipes* than of *Helea.*

Tipula plumosa Linnaeus, the type species of each of the nominal genera in question, is a well-recognized species.

The genus *Chironomus* Meigen is the type genus of the famlly CHIRONOMIDAE —the non-biting Gnats—in the Diptera. This family is an exceptionally well-known one. The liability of species of this family, both as adults and in their aquatic larval stages, to be captured with, and/or confused with, mosquitoes has led to the generic name *Chironomus* and the family name CHIRONOMIDAE becoming firmly embedded in the literature of medical entomology. *Chironomus* is a type-animal in laboratory teaching, both in entomology and in general zoology. The larvae are moreover an important constituent of fish food and they also play an important role in the fauna of sewage-disposal plants and filter-beds. The names *Chironomus* and CHIRONOMIDAE are thus found in much economic literature.

In the case of an important genus and family such as the present, it is clearly very desirable that an end should be put as soon as possible to the present divergence of practice in this matter by an authoritative ruling as to which of the two names in question should be used for this genus. In view of the preponderant use of the name *Chironumus* in the literature of the last century and a half, and the importance of this name in medical and other fields of applied biology, I am of the opinion that the best course and the one calculated to restore uniformity of nomenclatorial usage with the minimum of inconvenience—for some inconvenience will be inevitable whatever decision is taken—would be to establish the name *Chironomus* in preference to the name *Tendipes*. I accordingly suggest that the International Commission on Zoological Nomenclature should :—

(1) use its plenary powers (*a*) to suppress the name *Tendipes* Meigen, 1800, for the purposes of the Law of Priority but not for those of the Law of Homonymy, and (*b*) to validate the name *Chironomus* Meigen, 1803 ;

(2) place the generic name *Chironomus* Meigen, 1803 (type species, by selection by Latreille (1810) : *Tipula plumosa* Linnaeus, 1758) (gender af generic name : masculine) on the *Official List of Generic Names in Zoology* ;

(3) place the generic name *Tendipes* Meigen, 1800 (as proposed, under (1) (*a*) above, to be suppressed under the plenary powers) (gender of generic name : masculine) on the *Official Index of Rejected and Invalid Generic Names in Zoology* ;

(4) place the trivial name *plumosa* Linnaeus, 1758 (as published in the binominal combination *Tipula plumosa*) on the *Official List of Specific Trivial Names in Zoology.*

OBJECTION TO THE PROPOSAL THAT THE PLENARY POWERS SHOULD BE USED TO SUPPRESS THE NAME "TENDIPES" MEIGEN, 1800, FOR THE PURPOSE OF VALIDATING THE NAME "CHIRONOMUS" MEIGEN, 1803 (CLASS INSECTA, ORDER DIPTERA)

By ALAN STONE

(*United States Department of Agriculture, Bureau of Entomology and Plant Quarantine, Washington, D.C.*)

(Commission's reference Z.N.(S.)469)

(Letter dated 27th March, 1951)

In response to your letter of 7th March, I am very pleased to have the opportunity to protest the proposed suppression of the generic name *Tendipes* Meigen, 1800 (type species : *Tipula plumosa* Linnaeus). The name *Tendipes* is very firmly established in the literature by the works of Kieffer. 1911–1916, Gripekoven, 1914, Kruseman, 1933, 1939 ; de Meijere, 1935, 1939, Hennig, 1941, 1950, Beyer, 1941, Soot-Ryen, 1942–1943 ; Rapp, 1943, Townes, 1944–1945, Wirth, 1946–1950, Procter, Stuardo, Johnson, 1946, Morrissey, 1946, 1950, Hauber, 1946, 1949, Chernovsky, 1948, Marcuzzi, Sonderup, 1949, Goetghebuer (*in* Lindner, 1936–1944). This includes Gripekoven's 100 page work on " Minierende Tendipediden," Goetghebuer's large work on the family in Lindner's " Fliegen der palaearktischen Region," and Townes' revision of the Nearctic species of the Tendipedini. At least 120 species have been originally described in the genus *Tendipes* and probably many more. There is no real confusion involved since the names are equivalent and in order to examine the literature one must know this anyway.

The family is of considerable interest in ecology and wild life management but I personally do not think that this is sufficiently important to warrant suspension of the rules in this case. Here again, a ruling that would permit retention of the family name based on a synonym would obviate most of the difficulty. If the name *Tendipes* had been suppressed in 1913, along with all the other Meigen 1800 names, I would be very pleased. Since this was not done, a considerable literature has been built up on the nomenclatorially valid name, and it seems much too late to invalidate a name that the Commission declared to be valid.

PROPOSED ADDITION TO THE "OFFICIAL LIST OF GENERIC NAMES IN ZOOLOGY" OF THE GENERIC NAME "PHILIA" MEIGEN, 1800 (CLASS INSECTA, ORDER DIPTERA)

By D. ELMO HARDY

(*University of Hawaii, Agricultural Experiment Station, Honolulu, Territory of Hawaii*)

(Commission's reference Z.N.(S.)498)

This is a simple case of synonymy of a Meigen (1803) generic name with one of his (1800) generic names. *Philia* Meigen, 1800 (*Nouvelle Classification des Mouches à deux Ailes* : 20) is recognizable from the original description and *Dilophus* Meigen, 1803 (*Mag. f. Insektenk.* Illiger) **2** : 264) is quite obviously a synonym. In accordance with *Opinion* 152 as supplemented by the conclusions of the fourteenth meeting of the International Commission on Zoological Nomenclature in Paris (1950, *Bull. zool. Nomen.* **4**:552–558), application is hereby made for the Commission to place the name *Philia* Meigen, 1800 (type species, by subsequent selection : *Tipula febrilis* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 588) on the *Official List of Generic Names in Zoology* and that the name *Dilophus* Meigen, 1803 (type species : *Tipula febrilis* Linnaeus, 1758, by selection by Latreille, 1810 (*Consid. gén. Crust. Arach. Ins.* : 442) be placed on the *Official Index of Rejected and Invalid Generic Names in Zoology*.

The writer has used the name *Philia*, in place of *Dilophus*, in his papers on the BIBIONIDAE since 1937 and that name is very firmly established in the current literature of the BIBIONIDAE of the world. According to the successive volumes of the *Zoological Record*, supplemented by the writer's own records, just a single reference to *Dilophus* has appeared in the literature since 1938. This was a note on the biology of *Dilophus similis* Rondani by C. Bruch (1940, "Observaciones biologicas sobre *Dilophus similis* Rondani," *Notas Mus. La Plata* **5** (Zool.) : 307–315). Edwards used *Dilophus* widely previous to 1938, as did Duda, Okada and others, but the name *Philia* has replaced this in the more current literature. To revert back to *Dilophus* would indeed cause much more confusion than uniformity.

The group is of little or no importance from an economic standpoint and the workers in applied entomology would not be affected by the official adoption of the name *Philia*.

The writer has been making routine identifications of the BIBIONIDAE for the past fifteen years and the name *Philia* is now in general use in the major museums and collections of the world. The writer has used this name in the following papers :—

1937, "New Bibionidae from Nearctic America," *Proc. Utah Acad. Sci.* **14** : 199-213.
1942, "Studies in New World Philia," Part I, *J. Kansas ent. Soc.* **15** : 127-134.
1945, "Revision of Nearctic Bibionidae including Neotropical *Plecia* and *Penthetria*," *Univ. Kansas sci. Bull.* **30** : 367-547.
1948, "Homonymy Notes in the Bibionidae," *J. Kansas ent. Soc.* **21** : 36.

1948, " British Museum Ruwenzori Expedition, Bibionidae," **1** (6) : 109-127.
1950, " Exploration du Parc National Albert, Mission G. F. de Witte, Bibionidae," *Inst. Parcs nat. Congo Belge* **65** : 1-23.

The following manuscripts are now (19th October, 1950) in the hands of the printer and will be published in the near future :—

" The Bibionidae of Madagascar," Part II, sent to the Institut Scientifique de Madagascar," to be published in the *Memoires of the Institut.*
" The Argentine Bibionidae," being published in *Acta zoologica lilloana.*
" A Monographic Study of the African Bibionidae (Diptera), Part II, Genus *Philia* Meigen," being published in the *Journal of the Kansas Entomological Society.*

The writer also has manuscripts on hand dealing with new species of *Philia* from the Pacific, Oriental and Neotropical Regions.

Conclusions :

The continued acceptance of *Philia* Meigen, 1800, in preference to *Dilophus* Meigen 1803, should not cause any degree of disturbance and would certainly create more uniformity and stability than confusion. The writer accordingly requests the International Commission on Zoological Nomenclature to place :—

(1) the generic name *Philia* Meigen, 1800, *Nouv. Class. Mouch* ; 20 (type species by subsequent selection, by Coquillet, 1910 (*Proc. U.S. nat. Mus.*, **37** : 488) (gender of generic name : feminine) : *Tipula febrilis* Linnaeus, 1758) on the *Official List of Generic Names in Zoology* ;

(2) the trivial name *febrilis* Linnaeus, 1758, *Syst. Nat.* (ed 10) **1** : 588 (as published in the binominal combination *Tipula febrilis*) on the *Official List of Specific Trivial Names in Zoology* ;

(3) the generic name *Dilophus* Meigen, 1803 (an objective junior synonym of *Philia* Meigen, 1800) (gender of generic name : masculine) on the *Official Index of Rejected and Invalid Generic Names in Zoology.*

PROPOSED ADDITION OF THE NAME "PHILIA" MEIGEN, 1800 (CLASS INSECTA, ORDER DIPTERA) TO THE "OFFICIAL LIST OF GENERIC NAMES IN ZOOLOGY": SUPPORT FOR APPLICATION SUBMITTED BY PROFESSOR D. ELMO HARDY

By MARTIN L. ACZÉL

(*Institute of Entomology, National University of Tucumán, Tucumán, Argentina*)

(Commission's reference Z.N.(S.)498)

(Extract from a letter dated 6th November, 1950)

Wanting to assist in stabilising the nomenclature of Dipterology, I support the proposals to be submitted by Professor Hardy concerning the Meigen (1800) name *Philia* in the family BIBIONIDAE.

PROPOSED ADDITION OF THE NAME "PHILIA" MEIGEN: 1800 (CLASS INSECTA, ORDER DIPTERA) TO THE "OFFICIAL LIST OF GENERIC NAMES IN ZOOLOGY": COMMENT ON THE APPLICATION SUBMITTED BY PROFESSOR D. ELMO HARDY

By ALAN STONE

(*United States Department of Agriculture, Bureau of Entomology and Plant Quarantine, Washington, D.C.*)

(Commission's reference Z.N.(S.)498)

(Extract from a letter dated 30th January, 1951)

Concerning the name *Philia* (Z.N.(S.)498), this case is so parallel to those of *Dorilas* and *Tylos*, that I see no need to discuss the matter at length.* It is the nomenclatorially valid name that has been used in extensive publications by Hardy. Meigen's original description of *Philia* very clearly refers to the same genus as did his *Dilophus*. No family name is based on the generic name and the name is used very little in the literature of economic entomology. In most of these Meigen 1800 names there is no real confusion since it is merely a change from one name to another, without any change in the concept of the genus.

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* See pages 142-143, 160

PROPOSED ADDITION OF THE GENERIC NAME "TYLOS" MEIGEN, 1800 (CLASS INSECTA, ORDER DIPTERA) TO THE "OFFICIAL LIST OF GENERIC NAMES IN ZOOLOGY" AND OF "MICROPEZA" MEIGEN, 1803, TO THE "OFFICIAL INDEX OF REJECTED AND INVALID GENERIC NAMES IN ZOOLOGY"

By MARTIN L. ACZÉL

(*Institute of Entomology, National University of Tucumán, Tucumán, Argentina*)

(Commission's reference Z.N.(S.)501)

(Extract from a letter dated 6th November, 1950, with enclosure)

Wanting to assist in stabilizing the nomenclature of Dipterology, I submit the following request for a Meigen (1800) name in the family TYLIDAE to be placed on the *Official List.*

This is a simple case of synonymy of a Meigen (1800) name with the genus *Tylos* Meigen, 1800 (*Nouvelle Classification des Mouches à deux Ailes :* 31) which is recognizable from the original description and *Micropeza* Meigen, 1803 (Mag. f. Insektenk. (Illiger) **2** : 276) which is quite obviously a synonym. In accordance with the *Opinion* 152 as supplemented by the conclusions of the Fourteenth Meeting of the International Commission on Zoological Nomenclature in Paris (1950, *Bull. zool. Nomencl.* **4** : 552–558), application is hereby made for the Commission to place the name *Tylos* Meigen, 1800 (type species by subsequent selection by Coquillet, 1910 (*Proc. U. S. nat. Mus.* **37**(No. 1719) : 618) : *Musca corrigiolata* Linnaeus) on the *Official List of Generic Names in Zoology* and that the name *Micropeza* Meigen, 1803 (type species by original designation : *Musca corrigiolata* Linnaeus) be sunk as a synonym of *Tylos.*

Before 1908 the name *Tylos* was used scarcely, if at all. Between 1908 and 1932 it was used occasionally. Hendel treated several species under the names *Tylos*, using the family name TYLIDAE in 1931 (*Bull. Soc. ent. Egypte,* **2** : 61) and in 1932 (*Konowia* **11** : 120–121). In 1930 L. Czerny (*in* Lindner, *Die Fleigen pal. Region* **42a.** Tylidae), treated this family using the name TYLIDAE and placed ten species in the genus *Tylos.*

The last leading worker on this family, Willi Hennig, in his world revision of TYLIDAE, 1934–1936 (1934 : *Stett. ent. Ztg.* **95** : 65–108, 294–330 ; 1935, *ibid.* **96** : 27–67 ; *Konowia* **14** : 68–92, 192–216, 289–310 ; 1936 ; *Konowia* **15** : 129–144, 201-239) as well as his other papers published between 1934 and 1941 used the family name TYLIDAE and the generic name *Tylos*, feeling morally obliged to follow the International Rules of Zoological Nomenclature, the *Opinions* concerning the Meigen 1800 names, and the principle of priority.

It should be noted also that Professor M. James in 1946 (" The dipt. family Tylidae in Colorado," *Ent. News* **57** : 128–131) used also the legitimate names

TYLIDAE and *Tylos*. My own publications in which I have used these names are as follows:

1950, "Notes on Tylidae I. The Palaearctical Tylidae of the Hungar. Mus.," *Acta zool. Lilloana* (1949) **8** : 161-196.
1950, "Notes on Tylidae II. Argentine species of the subfamily Tylinae in the Ent. Coll. of the Miguel Lillo Foundation," *loc. cit.* **8** : 219-280.
1950, Catalogo de la familia de las Tylidae, *loc. cit.* **8** : 309-389.

The following paper is in the hands of the printer due for publication in the near future:

Morfología externa y división sistemática de las Tanypezidiformes, con sinopsis de las especies argentinos de Tylidae y Neriidae. 120 manuscript pages for publication in the next volume of the *Acta zool. Lilloana.*

In the past ten years W. Hennig, Professor James and I, have used the same names on our identifications on these flies, examining collections from the major museums throughout the United States and Europe, from all the zoogeographical regions.

The family and the genus is of no importance from an economic standpoint, having saprophagous larvae, and the workers in applied entomology would not be affected by the official adoption of the name *Tylos* and TYLIDAE.

According to successive volumes of the *Zoological Record*, just a single reference to *Micropeza* and MICROPEZIDAE has appeared in the literature since 1936. This was a short note on British MICROPEZIDAE by Mr. J. E. Collin (1945, *Ent. Rec.* **57** : 115–119).

Conclusions:

The continued acceptance of the generic name *Tylos* Meigen, 1800, and the family name TYLIDAE, in preference to *Micropeza* Meigen, 1803, and MICROPEZIDAE, should not cause any degree of disturbance and would certainly create more uniformity and stability than confusion. The writer accordingly requests the International Commission on Zoological Nomenclature to place:—

(1) the generic name *Tylos* Meigen, 1800, *Nouv. Class. Mouches* : 31 (type species by subsequent selection by Coquillet (1910): *Musca corrigiolata* Linnaeus, 1767) on the *Official List of Generic Names in Zoology*;

(2) the generic name *Micropeza* Meigen, 1803 (an objective synonym of *Tylos* Meigen, 1800) on the *Official Index of Rejected and Invalid Generic Names in Zoology*;

(3) the trivial name *corrigiolata* Linnaeus, 1767, *Syst. Nat.* (ed. 12) **1**(2): 955 (as published in the binominal combination *Musca corrigiolata*) on the *Official List of Specific Trivial Names in Zoology.*

PROPOSED USE OF THE PLENARY POWERS TO VALIDATE THE NAME "MICROPEZA" MEIGEN, 1803, AND TO SUPPRESS THE NAME "TYLOS" MEIGEN, 1800 (CLASS INSECTA, ORDER DIPTERA)

By JOHN SMART, M.A., D.Sc.
(*University of Cambridge, Department of Zoology, Cambridge*)

(Commission's reference Z.N.(S.)501)

The object of the present application is to seek the use, by the International Commission on Zoological Nomenclature, of its plenary powers for the purpose of validating the generic name *Micropeza* Meigen, 1803, by suppressing the name *Tylos* Meigen, 1800 (Class Insecta, Order Diptera).

The following are the relevant particulars relating to the foregoing names :—

(1) *Tylos* Meigen, 1800, *Nouv. Class. Mouches :* 31.

No named species were cited by Meigen as belonging to this genus. Hendel was the first author to cite a species by name as belonging to this genus (Hendel, 1908, *Verh. zool.-bot. Ges. Wien* **58** (2/3) : 60). The sole species so cited by Hendel was *Musca corrigiolata* Fabricius, *i.e.*, *Musca corrigiolata* Linnaeus, 1767 (*Syst. Nat.* (ed. 12) **1** (2) : 995). That species is therefore the type species of *Tylos* Meigen, by monotypy. (The same species was later selected as the type species of this genus by Coquillet (1910) who regarded *Micropeza* as only a change of name.)

(2) *Micropeza* Meigen, 1803, *Mag. f. Insektenk.* (Illiger) **2** : 276.

Meigen cited only *Musca corrigiolata* Linnaeus, 1767, which is therefore the type species by monotypy.

The name *Tylos* was completely ignored by Dipterists until Hendel (1908) suggested that it might be synonymous with *Micropeza*. (He indicated his doubt by inserting a " ? " before *Micropeza*, which was placed in the text in the position of a synonym). Subsequent authors who favoured the use of the Meigen (1800) names accepted the synonymy without question.

That *Musca corrigiolata* Fabricius is the same species as *Musca corrigiolata* Linnaeus is agreed among specialists, and the species concerned is well-recognized.

The genus *Micropeza* Meigen, 1803, is the type genus of a distinctive family of the Order Diptera—the MICROPEZIDAE—the Stilt-Legged Flies. This genus and family have always been known by these names, except by those specialists who, following Hendel, have used the generic name *Tylos* Meigen, 1800, and the family name TYLIDAE.

It is clearly very desirable that an end should be put as soon as possible to the current divergence of practice in this matter by an authoritative ruling as to which of these names should be used. Having regard to the preponderant use in literature of the name *Micropeza* during the last century and a half, I am of the opinion that the best course would be to establish that name in preference to the name *Tylos*. I accordingly suggest that the International Commission on Zoological Nomenclature should :—

(1) use its plenary powers (*a*) to suppress the name *Tylos* Meigen, 1800, for the purposes of the Law of Priority but not for those of the Law of Homonymy, and (*b*) to validate the name *Micropeza* Meigen, 1803 ;

(2) place the generic name *Micropeza* Meigen, 1803 (type species by monotypy : *Musca corrigiolata* Linnaeus, 1767) (gender of generic name : feminine) on the *Official List of Generic Names in Zoology ;*

(3) place the generic name *Tylos* Meigen, 1800 (gender of generic name : masculine) as proposed under (1) (*a*) above, to be suppressed under the plenary powers, on the *Official Index of Rejected and Invalid Generic Names in Zoology ;*

(4) place the trivial name *corrigiolata* Linnaeus, 1767 (as published in the binominal combination *Musca corrigiolata*) on the *Official List of Specific Trivial Names in Zoology.*

PROPOSED ADDITION OF THE NAME "TYLOS" MEIGEN, 1800 (CLASS INSECTA, ORDER DIPTERA) TO THE "OFFICIAL LIST OF GENERIC NAMES IN ZOOLOGY": COMMENT ON THE APPLICATION SUBMITTED BY PROFESSOR MARTIN L. ACZÉL

By ALAN STONE

(*United States Department of Agriculture, Bureau of Entomology and Plant Quarantine, Washington, D.C.*)

(Commission's reference Z.N.(S.)501)

(Extract from a letter dated 30th January, 1951)

The case for *Tylos* versus *Micropeza* is essentially the same as for *Dorilas* versus *Pipunculus*, although the use of *Tylos* has possibly been even more extensive than that of *Dorilas*. Aczél, Hennig, Czerny and Hendel, have all used the generic name *Tylos*, and the family name TYLIDAE in important revisionary works. Cresson is the most important worker in the family who has stuck to *Micropeza* and MICROPEZIDAE. James, Seguy, and de Meijere have also used TYLIDAE, as did Kloet & Hincks in their "Check List of British Insecta." Most of the important papers of the last fifteen years have used the name *Tylos*.

It seems unnecessary to repeat the general arguments that I gave in my letter concerning *Dorilas** that are equally applicable here.

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* See pages 142-143

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The Official Organ of

THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

Edited by

FRANCIS HEMMING, C.M.G., C.B.E.

Secretary to the International Commission on Zoological Nomenclature

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BULLETIN OF ZOOLOGICAL NOMENCLATURE

Volume 2, Parts 6/8 (pp. 161-240) 4th May 1951

NOTICES PRESCRIBED BY THE INTERNATIONAL CONGRESS OF ZOOLOGY

1. The following notices are given in pursuance of decisions taken, on the recommendation of the International Commission on Zoological Nomenclature (see 1950, *Bull. zool. Nomencl.* **4** : 51-56, 57-59), by the Thirteenth International Congress of Zoology, Paris, July 1948 (see 1950, *Bull. zool. Nomencl.* **5** : 5-13, 131).

(a) Date of commencement by the International Commission on Zoological Nomenclature of voting on applications published in the "Bulletin of Zoological Nomenclature"

Notice is hereby given that normally the International Commission will start to vote upon applications published in the *Bulletin of Zoological Nomenclature* on the expiry of a period of six calendar months from the date of publication in the *Bulletin* of the applications in question. Any specialist who may desire to comment upon any of the applications published in the present Triple Part (vol 2, Triple Part 6/8) of the *Bulletin* is accordingly invited to do so, in writing, to the Secretary to the Commission as quickly as possible and in any case in sufficient time to enable the communication in question to reach the Secretariat of the Commission before the expiry of the six-month period referred to above.

(b) Notice of the possible use by the International Commission on Zoological Nomenclature of its plenary powers in certain cases

Notice is hereby given that the possible use by the International Commission on Zoological Nomenclature of its plenary powers is involved in applications published in the present Triple Part of the *Bulletin of Zoological Nomenclature* in relation to the following names :—

(1) *Sphaeroceras* Bayle, 1878 (Class Cephalopoda, Order Ammonoidea), proposed validation of, by suppression of *Sphaeroceras* Hope, 1840 (Class Insecta, Order Coleoptera) (Z.N.(S.)405)

(2) *Procerites* Siemiradzki, 1898 (Class Cephalopoda, Order Ammonoidea) proposed designation of type species of (Z.N.(S.)403)

(3) *Macrocephalites* Zittel, 1884, proposed designation of type species of ; *Ammonites macrocephalus* Schlotheim, 1813, proposed determination of species to which name applicable (Class Cephalopoda, Order Ammonoidea) (Z.N.(S.)401)

(4) *Pictonia* Bayle, 1878, and *Rasenia* Salfeld, 1913, proposed designation of type species of ; trivial name *cymodoce* d'Orbigny. 1850 (as published in the binominal combination *Ammonites cymodoce*), (Class Cephalopoda, Order Ammonoidea), proposed suppression of (Z.N.(S.)421)

(5) *Aulacostephanus* Tornquist, 1896 (Class Cephalopoda, Order Ammonoidea), proposed designation of type species of (Z.N.(S.)384)
(6) *Kosmoceras* Waagen, 1869, *Harpoceras* Waagen, 1869, and *Perisphinctes* Waagen, 1869 (Class Cephalopoda, Order Ammonoidea), proposed designation of type species of (Z.N.(S.)445)
(7) *Planites* de Haan, 1825, proposed suppression of; *Nautilus polygyratus* Reinecke, 1818 (Class Cephalopoda, Order Ammonoidea), determination of species to which name applicable (Z.N.(S.)402)
(8) *Planulites* Lamarck, 1801, *Orbulites* Lamarck, 1801, *Pelagus* Montfort, 1808, *Ellipsolithes* Montfort, 1808, *Globites* de Haan, 1825 (Class Cephalopoda, Order Ammonoidea), proposed suppression of (Z.N.(S.) 423)
(9) *Ammonites* Bruguière, 1789 (Class Cephalopoda, Order Ammonoidea), proposed suppression of (Z.N.(S.)425)
(10) *angulatus* Schlotheim, 1820 (as published in the binominal combination *Ammonites angulatus*) (Class Cephalopoda, Order Ammonoidea), proposed validation of, and determination of species to which name applicable (Z.N.(S.)422)
(11) *Toxosphinctes* Buckman, 1923 (Class Cephalopoda, Order Ammonoidea), proposed suppression of (in favour of *Arisphinctes* Buckman, 1924) (Z.N.(S.)389)
(12) *Arnioceras* Hyatt, 1867 (Class Cephalopoda, Order Ammonoidea), proposed designation of type species of (Z.N.(S.)509)
(13) *Liparoceras* Hyatt, 1867 (Class Cephalopoda, Order Ammonoidea), proposed designation of type species of (Z.N.(S.)507)
(14) *Normannites* Munier-Chalmas, 1892 (Class Cephalopoda, Order Ammonoidea), proposed designation of type species of (Z.N.(S.)508)
(15) *virgula* Deshayes, 1831 (as published in the binominal combination *Gryphaea virgula*) (Class Pelecypoda), proposed validation of (Z.N.(S.)407)
(16) *asper* Lamarck, 1819 (as published in the binominal combination *Pecten asper*) (Class Pelecypoda), proposed validation of (Z.N.(S.)408)
(17) *Gryphaea* Lamarck, 1801 (Class Pelecypoda), proposed suppression of, and validation of *Gryphaea* Lamarck, 1819 (Z.N.(S.)365)

2. In accordance with the procedure agreed upon at the Session held by the International Commission on Zoological Nomenclature in Paris in 1948 (see 1950, *Bull. zool. Nomencl.* **4** : 56), corresponding Notices have been sent to the journals " Nature " and " Science."

FRANCIS HEMMING
Secretary to the International Commission on Zoological Nomenclature

Secretariat of the
International Commission on
Zoological Nomenclature,
28 Park Village East, Regent's Park,
LONDON, N.W.1, England.
24th April 1951.

INTRODUCTORY NOTE ON APPLICATIONS SUBMITTED TO THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE IN REGARD TO THE NAMES OF CERTAIN JURASSIC AMMONITES

By W. J. ARKELL, M.A., D.Sc., F.R.S.

(*Sedgwick Museum, Cambridge University, Cambridge*)

(Note dated 30th March 1951)

The following applications to the International Commission on Zoological Nomenclature arise out of preparations for the section on Jurassic ammonites for the international *Treatise on Invertebrate Paleontology*. Some of the nomenclatorial problems dealt with are of long standing and have often been discussed in print, but no one hitherto has thought it worth while to bring them before the Commission. Only by so doing can such time-wasting obstructions be cleared away.

Mr. Francis Hemming has most kindly spent much time and trouble in putting the papers into the necessary shape for the Commission and in anticipating and avoiding a number of likely pitfalls.

It is hoped that under the revised procedure of the International Commission decisions on these applications will be given by the end of the present year.

PROPOSED USE OF THE PLENARY POWERS TO VALIDATE THE GENERIC NAME *SPHAEROCERAS* BAYLE,1878 (CLASS CEPHALOPODA, ORDER AMMONOIDEA) (JURASSIC)

By W. J. ARKELL, M.A., D.Sc., F.R.S.
(*Sedgwick Museum, Cambridge University, Cambridge*)

(Commission's reference Z.N.(S.)405)

1. The generic name *Sphaeroceras* Bayle, 1878 (*Explic. Carte géol. France* 4 (Atlas) : pls. 52, 53) has as its type species *Ammonites brongniarti* Sowerby (J), 1817 (*Min. Conch.* **2** : 190), that species having been so selected by Douvillé in 1879 (*Bull. Soc. géol. France* (3) **7** *C.R.* : 91).

2. The name *Sphaeroceras* is widely disseminated in the literature of the Jurassic, as will be seen from the list of references given by Roman (1938, *Ammonites jurass. crét.* : 197).

3. Further, the genus *Sphœroceras* Bayle is the type species of the family SPHAEROCERATIDÆ Buckman (1920, *Type Ammonites* **3** : 22).

4. I found however on consulting Neave's *Nomenclator zoologicus* (**4** : 239) that the name *Sphaeroceras* Bayle, 1878, is an invalid junior homonym of the name *Sphaeroceras* Hope, 1840 (*Coleopterist's Manual* **3** : 143), the name of a genus in the Order Coleoptera (Class Insecta).

5. If the generic name *Sphaeroceras* Hope was a name currently used by coleopterists for a genus of beetles, I should not have considered that it would have been right to ask the International Commission on Zoological Nomenclature to use their plenary powers to suppress that name, in order to validate the generic name *Sphaeroceras* Bayle in ammonites. When however I consulted Mr. C. E. Tottenham of the Zoological Museum here, I learnt that the generic name *Sphaeroceras* Hope, 1840, was, as from the moment of its original publication, a junior synonym of the generic name *Globicornis* Latreille, 1829, each of these genera having the same taxonomic species as its type species. The Report kindly furnished by Mr. Tottenham is annexed to the present application as an Appendix. In the circumstances disclosed in this Report it was evident that not the slightest inconvenience of any kind would be experienced by coleopterists if the International Commission were to suppress the name *Sphaeroceras* Hope, 1840, while that action would be of great value to students of ammonites by validating the name *Sphaeroceras* Bayle, 1878, which (as I have explained) is the name for a well-known genus of the Jurassic and forms the basis of a family name.

6. I accordingly ask the International Commission on Zoological Nomenclature (1) to use their plenary powers to suppress the generic name *Sphaeroceras*

Hope, 1840, and to validate the name *Sphaeroceras* Bayle, 1878, (2) to place the name *Sphaeroceras* Bayle, 1878 (gender of generic name : neuter) (type species, by selection by Douvillé, 1879 : *Ammonites brongniarti* Sowerby, 1817) on the *Official List of Generic Names in Zoology*, (3) to place the trivial name *brongniarti* Sowerby, 1817 (as published in the binominal combination *Ammonites brongniarti*) on the *Official List of Specific Trivial Names in Zoology*, and (4) to place the name *Sphaeroceras* Hope, 1840, suppressed under (1) above, on the *Official Index of Rejected and Invalid Generic Names in Zoology*.

APPENDIX

On the question whether the suppression of the name " Sphaeroceras " Hope, 1840 (Class Insecta, Order Coleoptera), under the plenary powers would cause any inconvenience to coleopterists

(Memorandum, dated 5th November 1949)

By C. E. TOTTENHAM
(*Zoological Museum, Cambridge University, Cambridge*)

From the point of view of the coleopterist there can be no objection to a request being made to the International Commission on Zoological Nomenclature for the suppression, under the plenary powers, of the generic name *Sphaeroceras* Hope, 1840.

The position is this :—Hope, 1840 (*Coleopterist's Manual* **3** : 143) first employed the name *Sphaeroceras* for a genus of beetles belonging to the family DERMESTIDAE. In doing so, he gave no generic characters but merely cited the name in a list of genera and typical species. He gave the name as a synonym of *Globicornis* Latreille, thus :—

Genus	*Typical species*
7. *Globicornis* Latr. *Sphaeroceras* Hope	*D. rufitarsis* Pz.

Globicornis Latreille, 1829 (*Règne anim.* (ed. 2) **4** : 511) is a valid name and is currently in use. The genus so named is monobasic, the only species cited by name by Latreille being *Dermestes rufitarsis* Panzer, 1796, which is therefore the type species of the genus *Globicornis* Latreille, 1829 (*in* Cuvier, *Règne anim.* (ed. 2) **4** : 511).

Since *Globicornis* Latreille, 1829, and *Sphaeroceras* Hope, 1840, have the same type species, namely *Dermestes rufitarsis* Panzer, 1796 (*Faun. Ins.*

germ. **3** (Heft 35) : No. 6) which is a synonym of *Dermestes nigripes* Fabricius, 1792 (*Ent. syst.* **1**(1) : 233), Hope's generic name *Sphaeroceras* was strangled at birth and can never be required.

I have been able to find no mention of *Sphaeroceras* Hope, 1840, in the literature and it is not even given as a synonym of *Globicornis* Latreille by Junk (1911, *Coleopt. Catalogus* **25**, Pars 33).

Since it is an unused and useless name in the Order Coleoptera, there is very good reason why this name, as published by Bayle, should be retained in its well-known sense as the name of a genus of ammonites.

If the Commission decide to use their plenary powers to suppress the name *Sphaeroceras* Hope, 1840, it would be convenient if at the same time they would add the name *Globicornis* Latreille, 1829 (gender of generic name : feminine) (type species, by monotypy : *Dermestes rufitarsis* Panzer, 1796 (= *Dermestes nigripes* Fabricius, 1792)) on the *Official List of Generic Names in Zoology*, and the trivial name *nigripes* Fabricius, 1792 (as published in the binominal combination *Dermestes nigripes*) on the *Official List of Specific Trivial Names in Zoology.*

PROPOSED DESIGNATION, UNDER THE PLENARY POWERS, OF THE TYPE SPECIES OF THE GENUS "PROCERITES" SIEMIRADZKI, 1898 (CLASS CEPHALOPODA, ORDER AMMONOIDEA) (JURASSIC)

By W. J. ARKELL, M.A., D.Sc., F.R.S.
(*Sedgwick Museum, Cambridge University, Cambridge*)

(Commission's reference Z.N.(S.)403)

1. The generic name *Procerites* was published by Siemiradzki (1898, *Palaeontograph.* **54** : 78, 303). Numerous species were included in the genus, but no type species was designated or indicated.

2. One of the species originally included was cited as *Ammonites procerus* Seebach, 1865. This species as interpreted by Siemiradzki (i.e. Siemiradzki, 1898, *nec* Seebach, 1864) was selected as the type species of *Procerites* by Buckman in 1914 (**2** : ix) and 1920 (**3** : 30).

3. De Grossouvre (1892 ; 1907 ; 1919 : 385, 387) showed that *Procerites procerus* Seebach, as interpreted by Siemiradzki, was based on *Ammonites procerus* Seebach, as interpreted by Schloenbach (1865 : pl. xxx, fig. 1), which (1907 : 8) he renamed *Procerites schloenbachi* de Grossouvre, pointing out that it was generically different from *A. procerus* Seebach.

4. According to the decision taken by the Thirteenth International Congress of Zoology in 1948, it is necessary to assume that the original author of a genus correctly identified the nominal species referred by him thereto but where there are grounds for considering that the original author of a genus misidentified the species selected as the type species of the genus by a later author the International Commission on Zoological Nomenclature, if satisfied that the species in question was so misidentified, is, under its plenary powers, to designate as the type species of the genus concerned, either (*a*) the species intended by the original author when citing the name of the erroneously determined species or (*b*), if the identity of that species is doubtful, a species in harmony with current nomenclatorial practice (1950, *Bull. zool. Nomencl.* **4** : 158–159). Further, an author selecting a type species of a previously established genus is to be assumed to have correctly identified the species so selected (1950, *ibid.* **4** : 157–158). It follows therefore (1) that, as matters now stand, Siemiradzki is to be assumed to have correctly identified *Ammonites procerus* Seebach, 1865, when he cited that species as one of the species then included by him in the genus *Procerites*, and (2) that Buckman (1914) is to be assumed to have correctly identified that species when he selected it as the type species of the above genus. In the present case it is perfectly clear that such assumptions are not justified, for (*a*) it is certain that Siemeradzki did misidentify the species to which he applied the name *Ammonites procerus* Seebach, and (*b*) Buckman, in selecting the type species for *Procerites*, expressly stated that the species so selected was not the true *Ammonites procerus* of Seebach but the species misidentified therewith by Siemeradzki. It is for this reason that the Commission is now asked to rectify the position under its plenary powers.

5. At my request Professor Hermann Schmidt has searched in Göttingen Museum for the type specimen of *A. procerus* Seebach and has found it and sent it to me on loan. It is a nucleus, difficult to interpret with certainty. In my opinion de Grossouvre (1919) was correct in referring it to the genus *Siemiradzkia* Hyatt, 1900. Therefore if *A. procerus* Seebach were to be recognised as type species of *Procerites*, the usage of half a century would be overturned and that generic name would have to replace *Siemiradzkia* Hyatt, 1900, a well-known and widely-distributed genus, which is now regarded as belonging to a different sub-family (PSEUDOPERISPHINCTINÆ, whereas *Procerites* as hitherto understood belongs to ZIGZAGICERATINÆ).

6. When the present application had been in the hands of the International Commission for over a year, the subgenus *Euprocerites* Wetzel (1950 : 76) was proposed with type species by original designation *Procerites schloenbachi* de Grossouvre, " because a subgenus *Procerites* (*sensu stricto*) as fixed by Buckman is not admissible according to the Rules of Nomenclature ". Incidentally Wetzel gives no indication of how *Procerites* (*sensu stricto*) should be understood, for he mentions no type species, and he assigns *A. procerus* Seebach to the subgenus *Phanerosphinctes* Buckman, 1921. This genus is based on a nucleus which is too small to be interpreted with certainty, but which is not congeneric with either *A. procerus* Seebach or *Procerites schloenbachi* de Grossouvre, and comes from older beds ; *Phanerosphinctes* is probably a synonym of *Vermisphinctes* Buckman, 1920.

7. Wetzel's new subgenus *Euprocerites* cannot, however, stand under the *Règles*. He assigns to *Euprocerites* Wetzel, 1950, the species *Parkinsonites fullonicus* Buckman, 1922, which is type species by original designation of *Parkinsonites* Buckman, 1922. *Parkinsonites fullonicus* is certainly congeneric with *Procerites scholoenbachi* de Grossouvre and is a closely allied species. If the name *Procerites* were to be rejected for the subgenus containing the species *P. fullonicus* Buckman, *Parkinsonites* would become the valid name and *Euprocerites* on Wetzel's own showing would fall as a synonym.

8. In order to provide a legal basis for the universal usage of the last half century and to avoid the revolutionary changes and consequent confusion in the nomenclature of the Bathonian PERISPHINCTIDÆ which the strict application of the *Règles* would involve, the International Commission on Zoological Nomenclature is asked to use its plenary powers to secure that the type species of the genus *Procerites* Siemiradzki, 1898, shall be the species hitherto accepted as such. The specific action requested is that the Commission should :—

(1) use its plenary powers (a) to set aside all selections of the type species of the genus *Procerites* Siemiradzki, 1898, hitherto made, and (*b*) to

designate *Procerites schloenbachi* de Grossouvre, 1907, as the type species of this genus ;

(2) place the undermentioned generic names on the *Official List of Generic Names in Zoology* :—

Procerites Siemiradzki, 1898 (gender of generic name : masculine) (type species, designated under the plenary powers : *Procerites schloenbachi* de Grossouvre, 1907, *VI*ᵉ *Congrès Assoc. Franc-Comtoise, Vesoul* : 8) ;

Siemiradzkia Hyatt, 1900 (*in* Eastman—Zittel, *Text-Book Palæont.* 1 : 582) (gender of generic name : feminine) (type species by original designation : *Ammonites aurigerus* Oppel, 1856, *Württemb. naturw. Jahreshefte* **13** : 167) ;

(3) place the name *Euprocerites* Wetzel, 1950 (an objective synonym of *Procerites* Siemiradzki, 1898, as proposed to be defined under (1)(*b*) above) on the *Official Index of Rejected and Invalid Generic Names in Zoology ;*

(4) place the under-mentioned trivial names on the *Official List of Specific Trivial Names in Zoology :*

schloenbachi de Grossouvre, 1907 (as published in the binominal combination *Procerites schloenbachi) ;*

aurigera Oppel, 1856 (as published in the binominal combination *Ammonites aurigera*).

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PROPOSED DESIGNATION, UNDER THE PLENARY POWERS, OF THE TYPE SPECIES OF THE GENUS "MACROCEPHALITES" ZITTEL, 1884, AND OF THE TYPE SPECIMEN OF "AMMONITES MACROCEPHALUS" SCHLOTHEIM, 1813 (CLASS CEPHALOPODA, ORDER AMMONOIDEA)

By W. J. ARKELL, M.A., D.Sc., F.R.S.
(*Sedgwick Museum, Cambridge University, Cambridge*)

(Commission's reference Z.N.(S.)401)

A. The type species of *Macrocephalites* Zittel, 1884

1. The genus *Macrocephalites* (Sutner MS.) Zittel (1884, *Handb. Pal.* **1** (Abt. 2) (3) : 470, fig. 655) was based on *Ammonites macrocephalus* Schlotheim, *A. tumidus* (Reinecke), *A. herveyi* Sowerby, *A. keppleri* Oppel, *A. arenosus* Waagen, *A. elephantinus* Waagen (*i.e.* six syntype species).

2. Only one of these species was figured by Zittel (*loc. cit.* : Fig. 655), namely *Macrocephalites macrocephalus* (Schloth.). He gave a good figure, easily recognisable. This fact and the virtual tautonomy would suggest that he regarded *A. macrocephalus* as the type species.

3. But Blake (1905 : 38–45), the first to monograph the genus, pointed out that Zittel's figure is widely different from *Am. macrocephalus* Schlotheim (1813), of which the sole type is the figure in Baier (1757, pl. xii, fig. 8) which Blake (1905 : 43) reproduced in his monograph.

4. Blake did not select a type species for this genus, but he assigned the *M. macrocephalus* of Zittel's fig. 655 to a new species, *M. typicus* Blake, which he placed first of the five species of *Macrocephalites* that he described, *M. macrocephalus* Schloth. being placed second. Blake called his new species "*Macrocephalites typicus* nom. nov.", implying that the type specimen should be the *A. macrocephalus* of either Zittel, d'Orbigny or Nikitin which he placed in the synonymy ; but the first line of his text begins "Type (pl. iii, fig. 1)", a Scarborough specimen in the Sedgwick Museum. This specimen is therefore presumably the holotype. It does not belong to the same species as *A. macrocephalus* Zittel and belongs to a different subgenus (*Dolikephalites* Buckman).

5. S. S. Buckman (1922, *Type Ammonites* **4** : pls. cccxxxiv, A, B) obtained from the Palaeontogical Museum of Munich, and refigured photographically, the original specimen on which Zittel's figure of 1884 was based (a specimen cited by Oppel, from the basal Callovian of Ehningen). He named it "*Macrocephalites verus* nov., Holotype", and printed on the plate "*Macrocephalites macrocephalus* Zittel, 1884, Genotype, *Handb. Pal.* 1 : 470, fig. 655."

6. The Commission are now asked to declare under the plenary powers that the type species of *Macrocephalites* is *M. verus* Buckman by deliberate subsequent selection, in spite of misuse of the word genotype for a specimen.

B. The type specimen of *Ammonites macrocephalus* Schlotheim

7. *Ammonites macrocephalus* Schlotheim (1813 : 70) was neither figured nor described. It was based solely on a drawing in Baier (1757, pl. xii, fig. 8), which has been reproduced by Blake (1905 : 43, fig. 3).

8. Baier's figure falls very far short of what is required by modern standards, but according to Blake (1905 : 39) " it is seen at once that the species represented is that now called *A. tumidus* after Reinecke (1818)." This is supported by Schlotheim's himself in a later work (1820 : 70) putting *Nautilus tumidus* Reinecke in synonymy with *A. macrocephalus.* Both came from the Callovian of Franconia.

9. Unfortunately there are complications. Not only has Baier's figure been almost universally ignored, both before and after Blake's monograph, and *A. macrocephalus* interpreted in many different ways, but " *A. macrocephalus* " has become an important zonal index fossil. The Macrocephalus Zone is world-wide and entrenched in the stratigraphical and geological literature of a century.

10. Thanks largely to the wide influence of Zittel's text-book, his interpretation of *A. macrocephalus* (i.e. = *M. verus* Buckman) has been by far the most commonly accepted and is in the minds of stratigraphers when they speak of the Macrocephalus Zone. Spath (1928 : 169) attempted to stabilise this position by pinning the name *macrocephalus* to *M. verus* Buckman, although he regarded it as generically distinct from *M. tumidus* (Reinecke). Spath wrote " it does not seem advisable now to go back with Blake (1905 : 43) to Baier's unrecognisable illustration, the original of which is lost." In 1933 I followed Spath and in my series of photographs of the chief Jurassic zonal indices I figured an English specimen of *M. verus* Buckman in illustration of *Macrocephalites macrocephalus* (Schloth.) (Arkell, 1933 : 608, pl. xxxv, fig. 1).

11. Oppel (1856–8 : 547), founder of the Macrocephalus Zone, based his interpretation on figures by Zieten (1830) and d'Orbigny (1846), the former *M. verus* Buckman, the latter *M. typicus* Blake, and he described *A. tumidus* (Reinecke) as a separate species. One of Oppel's own specimens (cited 1856–8 : 547) was that which Zittel figured and Buckman refigured as the holotype of *M. verus.*

12. Progress in knowledge of stratigraphy has proved that *M. tumidus* (Reinecke) does not occur in what has always been called the Macrocephalus Zone in this country, but in the next higher zone, the Koenigi Zone. Hence, if *M. macrocephalus* Schlotheim be interpreted by Baier's figure and *M. tumidus* (Reinecke), *M. macrocephalus* will become a species which does not occur in the Macrocephalus Zone. This will inevitably cause much confusion in geology.

13. The Commission is now asked to use its plenary powers to designate the specimen which is to be accepted as the type specimen of *Macrocephalites macrocephalus* (Schlotheim). I recommend that, in order to avoid the confusion referred to in the preceding paragraph, the specimen to be so designated should be the specimen which is the holotype of *Macrocephalites verus* Buckman, 1922 (=the specimen figured by Zittel in 1884 as *Macrocephalites macrocephalus* (Schlotheim)). By this procedure, *M. macrocephalus* would remain index fossil of the Macrocephalus Zone.

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DR. W. J. ARKELL'S APPLICATION TO THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE FOR RULINGS (a) ON THE QUESTION OF THE TYPE SPECIES OF "MACROCEPHALITES" ZITTEL, 1884, AND (b) ON THE QUESTION OF THE TYPE SPECIMEN OF "AMMONITES MACROCEPHALUS" SCHOLTHEIM, 1813 (CLASS CEPHALOPODA, ORDER AMMONOIDEA)

By FRANCIS HEMMING, C.M.G., C.B.E.
(*Secretary to the International Commission on Zoological Nomenclature*)

(Commission's reference Z.N.(S.)401)

1. Dr. W. J. Arkell has submitted to the International Commission on Zoological Nomenclature an application in which he asks for a ruling both as to the species to be accepted as the type species of the genus *Macrocephalites* Zittel, 1884 (*Handb. Pal.* **1** (*Abt.* 2) (3) : 470 and as to the specimen to be accepted as the type specimen of the nominal species *Ammonites macrocephalus* Schlotheim, 1813 (*Tasch. Min.* : 70). The two subjects are nomenclatorially quite distinct from one another but Dr. Arkell has united his proposals in regard thereto in a single application because his proposals in regard to the second subject have a direct bearing on the action which he asks the Commission to take as regards the first subject.

2. *Identity of the taxonomic species represented by the nominal species* Ammonites macrocephalus *Schlotheim*, 1813 : Dr. Arkell points out that the nominal species *Ammonites macrocephalus* Schlotheim, 1813, is based exclusively upon a drawing reproduced as fig. 8 on plate 12 of Baier's *J. J. Baieri Monumenta Rerum Petrificatarum* published in 1757. This, Dr. Arkell explains, is a poor figure by modern standards but has been identified by Blake (1905, *Monogr. Fauna Cornbrash* : 39) as the species " now called *A. tumidus* after Reinecke (1818)." After drawing attention to the fact that the trivial name *macrocephalus* of the species here under consideration has given its name to the Macrocephalus Zone, Dr. Arkell points out the species identified by Blake (i.e. *Nautilus tumidus* Reinecke) as that represented by fig. 8 on Baier's plate 12 (i.e. the holotype of *Ammonites macrocephalus* Schlotheim) does not occur in the Macrocephalus Zone in this country, being confined to the next higher zone, the Koenigi Zone. Dr. Arkell goes on to observe that Baier's figure—and therefore also Blake's interpretation of it—have been widely ignored by stratigraphers and that the Macrocephalus Zone, which is " world-wide and entrenched in the stratigraphical and geological literature of a century ", and the species which " is by far the most commonly accepted and is in the minds of stratigraphers when they speak of the Macrocephalus Zone " is the species to which Buckman in 1922 (*Type Ammonites* **4**: pl. 334 figs. A, B) gave the name *Macrocephalites verus*. This nominal species, Dr. Arkell adds, has at its holotype the specimen cited by Oppel from the basal Callovian of Ehningen which Zittel erroneously figured in 1884 (*loc. cit.* **1** (Abt. 2) (3) : fig. 655) under the name *Macrocephalites macrocephalus* (Schlotheim).

3. Dr. Arkell suggests that, in order to ensure that the species bearing the trivial name *macrocephalus* (i.e. the species represented by the nominal species *Ammonities macrocephalus* Schlotheim) shall be the species commonly accepted as the index fossil of the Macrocephalus Zone, the Commission should direct that the specimen to be accepted as the type specimen of this species shall be the specimen which is also the holotype of *Macrocephalites verus* Buckman, 1922 (i.e. the specimen erroneously figured by Zittel in 1884 as *Macrocephalites macrocephalus* (Schlotheim). In the form in which it is actually submitted, Dr. Arkell's proposal would involve the designation by the Commission (under its plenary powers) of a particular specimen to be the neotype of *Ammonites macrocephalus* Schlotheim, 1813. At the present time, it would be difficult for the Commission to take such a course, for, as the result of a decision taken in Paris in 1948 by the Commission, with the approval of the Thirteenth International Congress of Zoology, the whole question whether neotypes should be recognised in the *Règles* as a category of type specimen is at present *sub judice*, until a final decision is taken on this question by the Fourteenth International Congress of Zoology at its meeting to be held at Copenhagen in 1953 (1950, *Bull. zool. Nomencl.* **4** : 191-193). Fortunately, it is within the power of the Commission to secure the ends which Dr. Arkell has in view, without recourse to the creation of a neotype. A case of exactly this kind is provided by the trivial name *iris* Linnaeus, 1758 (as published in the binominal combination *Papilio iris*) (Class Insecta, Order Lepidoptera) dealt with by the Commission in 1948 (1950, *Bull. zool. Nomencl.* **4** : 540–542). In that case (as in the present case) a given trivial name (the trivial name *iris* Linnaeus, 1758) had been universally used in one sense but, as had been ascertained, the type specimen belonged to an entirely distinct, though closely allied species. The problem so presented was solved by the decision of the Commission to use their plenary powers " to direct that the trivial name *iris* Linnaeus, 1758 . . . should be applied to the species figured as *Apatura iris* by South (R.), 1906, *The Butterflies of the British Isles* as figure 1 on plate 29 . . . " An exactly similar result could be secured in the present case if the Commission were to use the plenary powers to direct that the trivial name *macrocephalus* Schlotheim, 1813 (as published in the binominal combination *Ammonites macrocephalus*) should be applied to the species figured by Buckman (S.S.), 1922, *Type Ammonites* as figs. A and B on plate 334 of volume 4 of that work.

4. *The type species of the nominal genus* Macrocephalites *Zittel*, 1884. The nominal genus *Macrocephalites* Zittel, 1884, was established without a designated or indicated type species and with six nominal species as syntypes, one of these being *Ammonites macrocephalus* Schlotheim, 1813. Dr. Arkell points out that the figure (fig. 655) given by Zittel for the above species did not, in fact, represent a specimen of *Ammonites macrocephalus* Schlotheim but was (as pointed out by Blake (1905 : 38–45)) a distinct species; the species in question was the species to which in 1922 Buckman applied the name *Macrocephalites verus*. This species was selected (though, as Dr. Arkell points out, in an irregular manner) as the type species of *Macrocephalites* Zittel by Buckman in 1922 (on the legend to his plate 334). This action, which was in thorough accord with what were no doubt Zittel's intentions when he chose the virtually tautonymous name *Macrocephalites* for the genus to which he referred the nominal species *Ammonites macrocephalus* Schlotheim, has been generally followed by later workers. From this standpoint therefore the nominal genus *Macrocephalites* Zittel, 1884, is a genus based upon a misidentified type species, the species which Zittel had in mind when placing in this genus the nominal species *Ammonites macrocephalus* Schlotheim (as based on Baier's pl. 12, fig. 8) being not that species but the species later named *Macrocephalites verus* Buckman, 1922.

5. The duties of the Commission, when dealing with genera based upon misidentified type species, were defined by the Thirteenth International Congress of Zoology and incorporated in the *Règles* in 1948 (1950, *Bull. zool. Nomencl.* **4**: 158-159). What the Congress then decided was (1) that the original author of a genus is to be assumed correctly to have identified the species referred to that genus, (2) that, where there is evidence that the author of a genus misidentified one of the species included by him in his new genus and that species was either designated by him, or selected by a later author, as the type species of the genus concerned, the Commission, if satisfied that such a misidentification has occurred, is to use its plenary powers " to designate as the type species of the genus concerned, either (a) the species intended by the original author when citing the name of the erroneously determined species or (b) if the identity of that species is doubtful, a species in harmony with current nomenclatorial usage, save that, where the Commission is of the opinion that greater confusion than uniformity would result from so doing, it is to direct that the designation or indication or, as the case may be, the selection as the type species of the genus concerned of the nominal species cited by the original author of the genus is to be accepted."

6. Having now established precisely the duties imposed on the Commission by the Congress in relation to this class of case, we find no difficulty, on the basis of the data furnished by Dr. Arkell, in determining the action which is called for. Those data show that the currently accepted concept of the genus *Macrocephalites* Zittel is based on the assumption that the type species of this genus is the species erroneously figured by Zittel (fig. 655) as *Macrocephalites macrocephalus* Schlotheim, 1813. In other words the species commonly accepted as the type species of this genus is the nominal species *Macrocephalites verus* Buckman, 1922, the holotype of which is actually the same specimen as that figured by Zittel as *Macrocephalites macrocephalus* Schlotheim. Accordingly, if no other factors were involved, the required solution would be the use by the Commission of its plenary powers to designate *Macrocephalites verus* Buckman, 1922, as the type species of the genus *Macrocephalites* Zittel.

7. It is at this point, however, that the other portion of the application submitted by Dr. Arkell becomes immediately relevant, for, although he wants the type species of the genus *Macrocephalites* Zittel to be the species to which Buckman in 1922 gave the name *Macrocephalites verus*, he asks also that the Commission should use its plenary powers to direct that the holotype of *Macrocephalites verus* Buckman, 1922, be accepted as the holotype of *Ammonites macrocephalus* Schlotheim, 1813. The adoption by the Commission of this latter proposal would both clearly define the identity of the taxonomic species represented by the nominal species *Ammonites macrocephalus* Schlotheim and also make the trivial name *verus* Buckman, 1922 (as published in the binominal combination *Macrocephalites verus*) an objective synonym of the trivial name *macrocephalus* Schlotheim, 1813 (as published in the binominal combination *Ammonites macrocephalus*), since in that event each of these nominal species would be based upon the same type specimen. Once the identity of *Ammonites macrocephalus* Schlotheim had been determined in this way, there would be no longer any need to designate, as the type species of *Macrocephalites* Zittel, 1884, some species different from *Ammonites macrocephalus* Schlotheim, for the taxonomic species which under the plenary powers would then be the species represented by Schlotheim's *macrocephalus* would be also the species which it is desired should be the type species of *Macrocephalites* Zittel. In those circumstances there would then be no need to use the plenary powers in relation to the type species of the genus *Macrocephalites*. For quite another reason however the use of those powers is desirable in this particular case, namely, in order to remove any doubts as to whether *Ammonites macrocephalus* Schlotheim is in fact the type species, under the *Règles*, of *Macrocephalites* Zittel, having regard to the (as Dr. Arkell points out) admittedly defective nature of the type selection made by Buckman in 1922.

8. *Form of action recommended to give effect to the purposes set forth in the application submitted by Dr. Arkell :* Having now reviewed the problem submitted by Dr. Arkell in the light of the relevant decisions taken by the Congress in regard to the procedure to be followed in dealing with nominal genera based on misidentified type species and also the precedent in regard to the determination of the identity of the taxonomic species represented by a given nominal species afforded by decisions taken by the Commission in comparable cases, we may summarise as follows the action by the Commission which (as Dr. Arkell agrees *in litt.* 26th August 1950) would be necessary to give effect to the purposes which his application is designed to serve, namely that the Commission should :—

(1) use its plenary powers :—

  (a) to direct that the trivial name *macrocephalus* Schlotheim, 1813 (as published in the binominal combination *Ammonites macrocephalus*) should be applied to the species figured by Buckman (S.S.) in 1922, *Type Ammonites*, Vol. 4, as figures A and B on plate 334 (the holotype of *Macrocephalites verus* Buckman, 1922) ;

  (b) to set aside all type selections for the genus *Macrocephalites* Zittel, 1884, made prior to the decision now proposed to be taken and, having done so, to designate as the type species of that genus the nominal species *Ammonites macrocephalus* Schlotheim, determined as in (a) above ;

(2) place the generic name *Macrocephalites* Zittel, 1884 (gender of generic name : masculine), with the type species designated in (1)(b) above on the *Official List of Generic Names in Zoology* ;

(3) place the trivial name *macrocephalus* Schlotheim, 1813 (as published in the binominal combination *Ammonites macrocephalus*), determined as specified in (1)(a) above, on the *Official List of Specific Trivial Names in Zoology ;*

(4) place the trivial name *verus* Buckman, 1922 (as published in the binominal combination *Macrocephalites verus*) (an invalid objective synonym of the trivial name *macrocephalus* Schlotheim, 1813, as defined in (1)(a) above) on the *Official Index of Rejected and Invalid Specific Trivial Names in Zoology.*

PROPOSED DESIGNATION, UNDER THE PLENARY POWERS, OF THE TYPE SPECIES OF "PICTONIA" BAYLE, 1878, AND "RASENIA" SALFELD, 1913 (CLASS CEPHALOPODA, ORDER AMMONOIDEA) (JURASSIC)

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(Commission's reference Z.N.(S.)421)

1. The generic name *Pictonia* Bayle, 1878 (: pl. lxvi) was published in explanation of a plate only, with the legend "*Pictonia cymodoce* d'Orbigny." The figure so referred to showed accurately a species differing from *Ammonites cymodoce* d'Orbigny, 1850 (: pl. 202). The text of Bayle's work was never published. The species so figured by Bayle was named *Pictonia baylei* by Salfeld in 1913 (: 423).

2. Salfeld (1917 : 73) selected *Pictonia baylei* Salfeld, 1913, as the type species of the genus *Pictonia* Bayle, and this selection has been generally followed by subsequent workers. Under the decision taken by the Thirteenth International Congress of Zoology in 1948, when incorporating in the *Règles* the substance of *Opinion* 168, the type species of *Pictonia* is the nominal species *Ammonites cymodoce* d'Orbigny, 1850, whatever that species may be, unless the Commission uses its plenary powers to designate some other species as the type species (1950, *Bull. zool. Nomencl.* **4** : 158-159). The nominal species *Ammonites cymodoce* d'Orbigny was based by its author on two syntypes, of which one, the larger, he figured as figs. 1 and 2 on his plate 202, while the other (i.e. the smaller syntype) he figured as figs. 3 and 4 on the same plate. Tornquist (1896 : 8) recognised that these two syntypes were not conspecific. He thereupon selected the smaller one (i.e. d'Orbigny's figs. 3 and 4) as the lectotype of *Ammonites cymodoce* d'Orbigny, at the same time making d'Orbigny's larger syntype (figured by d'Orbigny as figs. 1 and 2 on plate 202) the holotype of a new nominal species to which he gave the name *Pictonia orbignyi*. Thus, under the *Règles*, the type species of the genus *Pictonia* Bayle is the species figured by d'Orbigny in his figs. 3 and 4 on plate 202.

3. Lemoine (1904 : no. 55) re-figured what he claimed to be d'Orbigny's syntypes of *Ammonites cymodoce*. The larger specimen is clearly the one represented in d'Orbigny's larger figures, figs. 1 and 2 (the type specimen of *Pictonia orbignyi* Tornquist), but the smaller specimen figured by Lemoine differs in many respects from d'Orbigny's smaller figures, figs. 3 and 4 (lectotype of *cymodoce*) and it seems very doubtful whether the specimen has been correctly identified (see Arkell, 1935 : 250). The species *A. cymodoce* d'Orbigny therefore rests on insecure foundations and is unsuitable as the type species of a genus.

4. In 1913 Salfeld (1913 : 249) founded the genus *Rasenia*, with type species by original designation *A. cymodoce* d'Orbigny, as represented by the larger figures only (figs. 1 and 2). But under the decision taken by the Thirteenth International Congress of Zoology in 1948, referred to in paragraph 2, the type species of *Rasenia* is the nominal species *A. cymodoce* d'Orbigny, which by Tornquist's selection of 1896 (see paragraph 2 above) was fixed on d'Orbigny's figs. 3 and 4. Moreover, the specimen represented in d'Orbigny's figs. 1 and 2 was already the holotype of *Pictonia orbignyi* Tornquist, 1896 (see para. 2 above).

5. From Salfeld's writings it seems certain that his designation of d'Orbigny's figs. 1 and 2 as representing the type species of *Rasenia* was a slip, for his use of the genus *Rasenia* shows clearly that what he had in mind was d'Orbigny's figs.3–4 (i.e., the lectotype specimen of *A. cymodoce*), not figs. 1 and 2, which he would have called *Pictonia orbignyi* Tornquist : and he says of *Rasenia* "Another characteristic species is *Ammonites uralensis* d'Orbigny" (1845), which closely resembles d'Orbigny's (1850) figs. 3 and 4 but not figs. 1 and 2.

6. So apparent is Salfeld's intention in all his writings that the latest monographer (Schneid. 1940 : 79) has asserted that Salfeld did select d'Orbigny's figs. 3–4 as representing the type species of *Rasenia*. Unfortunately it requires more than this assertion to correct Salfeld's error.

7. As the Rules stand, therefore, *A. cymodoce* d'Orbigny (1850. figs. 3–4) is type species of both *Pictonia* Bayle, 1878; and *Rasenia* Salfeld, 1913. Since the type specimen is doubtful, this species is unsuitable to be type species of any genus (see paragraph 3 above), and the Commission is now asked to designate new type species for both genera.

8. The obvious type species for *Pictonia* is the one already widely accepted as such, namely, *Pictonia baylei* Salfeld. A suitable type species for *Rasenia* is less obvious. *A. uralensis* d'Orbigny (1845 : 429, pl. xxxii) would be suitable, but that the smaller, young, individual in d'Orbigny's figs. 8 and 9 has been selected as lectotype of this species by R. Douvillé (1911, n. 210) and it is so small that it leaves the nature of the species in doubt. In view of this the best choice is another species assigned by Salfeld himself to *Rasenia*, though not published until much later : namely, *Rasenia involuta* (Salfeld MS.) *in* Spath (1935 : 48, pl. 10, figs. 5a, 5b). This is close to the larger figured example of *A. uralensis* d'Orb. (1845, figs. 6–7) and has the advantage of having come from the brickpits in the Lower Kimeridge Clay of Market Rasen, Lincolnshire, after which the genus was named *Rasenia*.

9. I therefore recommend that, in order to avoid the confusion which otherwise is inevitable, the International Commission on Zoological Nomenclature should use their plenary powers to set aside all existing type designations or type selections for the under-mentioned genera and to designate as their respective type species the species specified below :—

Pictonia Bayle, 1878 : type species to be *Pictonia baylei* Salfeld, 1913 (based on Bayle, 1878 : pl. lxvi), from the lower Kimeridgian of Normandy) (gender of generic name : feminine).

Rasenia Salfeld, 1913 : type species to be *Rasenia involuta* (Salfeld MS.) Spath (1935 : 48, pl. 10, figs. 5a, 5b), from the Lower Kimeridge Clay of Market Rasen, Lincolnshire) (gender of generic name : feminine).

10. Consequential upon the adoption of the foregoing recommendation, the Commission are asked to place on the *Official List of Generic Names in Zoology* the generic names *Pictonia* Bayle, 1878, and *Rasenia* Salfeld, 1913, and on the *Official List of Specific Trivial Names in Zoology* the trivial names *baylei* Salfeld, 1913 (as published in the binominal combination *Pictonia baylei*) and *involuta* (Salfeld MS.) Spath, 1935 (as published in the binominal combination *Rasenia involuta*).

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ON THE PROPOSALS RELATING TO THE DETERMINATION OF THE TYPE SPECIES OF THE NOMINAL GENERA "PICTONIA" BAYLE, 1878, AND "RASENIA" SALFELD, 1913 (CLASS CEPHALOPODA, ORDER AMMONOIDEA) SUBMITTED TO THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE BY DR. W. J. ARKELL

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(Commission's reference Z.N.(S.)421)

1. The case of the generic names *Pictonia* Bayle, 1878, and *Rasenia* Salfeld, 1913, submitted to the Commission by Dr. W. J. Arkell, is one of peculiar complexity, owing to the facts that, as specialists are agreed, (1) the nominal genus *Pictonia* Bayle was based upon a misidentified type species, (2) the type species of *Rasenia* Salfeld was cited by the author of that name in a misleading manner, and (3) the nominal species which (as shown below) is, under the *Règles* the type species of both genera is a species which, when its name was first published, was a composite species, the division of which, under Article 31, has proved a matter of difficulty. Passing from the nomenclatorial aspects of this case to the taxonomic aspects, as laid before the Commission, we shall find that the strict application of the *Règles* to these generic names would have the effect (i) of transferring to the genus *Pictonia* the species at present referred to the genus *Rasenia*, (ii) of making *Rasenia* an objective synomym of *Pictonia*, and (iii) of making it necessary to find some new generic name for the species at present placed in the genus *Rasenia*. It is Dr. Arkell's object to prevent the serious confusion to which the foregoing changes would give rise, by enlisting the help of the Commission through the use of its plenary powers. In order to grasp the nomenclatorial implications of this difficult case, I have found it necessary for my own purposes to prepare the present analysis of the data submitted as a preliminary to considering exactly what action by the Commission would be necessary to secure the ends sought by Dr. Arkell.

The type species, under the "Règles", of the nominal genera "Pictonia" Bayle, 1878, and "Rasenia" Salfeld, 1913

2. *Type species of* Pictonia *Bayle*, 1878 : The generic name *Pictonia* was first published in 1878 by Bayle in volume 4 of the Atlas to his *Géologie de France* ; it there appeared in the explanation to plate lxvi in the form of the following legend : "*Pictonia cymodoce* d'Orbigny." No explanatory text was ever published by Bayle. From the standpoint of nomenclature the nominal genus *Pictonia* Bayle, 1878, has, as its type species by monotypy, the species *Ammonites cymodoce* d'Orbigny, 1850, whatever that species may be. (It may here be noted that, until the meeting of the Thirteenth International Congress of Zoology in Paris in 1948 it had never been made clear authoritatively whether a generic name published in this way on the legend of a plate could properly be regarded as having been published with an indication for the purposes of Article 25 or whether a name so published ought, under the *Règles*, to be regarded as a *nomen nudum*. At the foregoing Congress consideration of this question was given in connection with an application submitted, as a test case, by Dr. Harald A. Rehder (United States National Museum, Washington, D.C.) regarding the status of the generic name *Erycina* Lamarck, 1801 ; it was then decided that words should be inserted in the *Règles* " to make it clear that a generic name published prior to 1st January 1931, on a legend to a plate or plates but without explanatory matter is to be treated as having been published with an " indication " for the purposes of Article 25 " (see 1950, *Bull. zool. Nomencl.* **4** : 255). Accordingly, any doubts which formerly may have existed regarding the availablity of the generic name *Pictonia* as from the time when it was first published by Bayle in 1878 have now been set at rest.)

3. *Type species of* Rasenia *Salfeld*, 1913 : The generic name *Rasenia* was first published by Salfeld in 1913 (*Quart. J. geol. Soc.* **69** : 423). He designated, as the type species of this genus, *Ammonites cymodoce* d'Orbigny, 1850. That species, whatever it may be, is therefore the type species of this genus. In making this type designation, Salfeld noted that he regarded figs. 1 and 2 on plate 202 of d'Orbigny's work as representing the true *Ammonites cymodoce* d'Orbigny ; he presumably added this note, because he was aware that (as pointed out by Tornquist (1896)) (paragraph 6 below) d'Orbigny's nominal species *Ammonites cymodoce*, when first established, was a composite nominal species and he wished therefore to indicate that, in referring to that species, he (Salfeld) had in mind the species represented by d'Orbigny's figs. 1 and 2 and not that represented by that author's figs. 3 and 4. In this connection we have to pay special heed to the action taken by the Thirteenth International Congress of Zoology in Paris in 1948, when it incorporated into the *Règles* in a clarified and expanded form the rulings on the subject of the type species of genera established with misidentified type species previously given by the Commission in their *Opinions* 65 and 168. It will be noted that in their amended form the *Règles* provide that an author who publishes a name for a genus is to be assumed " to have identified correctly the nominal species referred by him to the genus so named and therefore that, where . . . the original author himself designates or indicates . . . one of the originally included nominal species to be the type species of the genus, the designation . . . so made, is not to be rejected on the ground that the original author of the generic name misidentified some other nominal species with that nominal species " (1950, *Bull. zool. Nomencl.* **4** : 158). It is perfectly clear therefore that, under the *Règles*, the type species of *Rasenia* Salfeld, 1913, is *Ammonites cymodoce* d'Orbigny, 1850, by original designation. The present case is however complicated by the fact that Salfeld, when citing the name *Ammonites cymodoce* d'Orbigny, added that he identified that species with figs. 1 and 2 given by d'Orbigny on his plate 202, whereas it is clear, as Dr. Arkell points out, from other observations made by Salfeld that he intended to refer not to the foregoing figures but to d'Orbigny's figs. 3 and 4 (which had been made the lectotype of *Ammonites cymodoce* d'Orbigny by Tornquist in 1896 (see table in paragraph 6, p. 184)). This note by Salfeld has led to the conclusion by some workers that the species represented by d'Orbigny's figs.

1 and 2 must (contrary to Salfeld's intention) be accepted as the type species of *Rasenia*, but, as will be seen from the decision by the Congress quoted above, this is not so, for the type species of a genus must be the species represented by the nominal species designated as the type species, in the present case, *Ammonites cymodoce* d'Orbigny, 1850, the lectotype of which (as already stated) is the species represented not by d'Orbigny's figs. 1 and 2 but that represented by his figs. 3 and 4. Thus, in fact, Salfeld's action constitutes, under the *Règles*, a valid designation, as the type species of *Rasenia*, of the species which he intended to designate (i.e. the species represented by d'Orbigny's figs. 3 and 4), notwithstanding the fact that the note which he added, by some slip of the pen, implied that he intended to designate, as the type species of this genus, the species represented by d'Orbigny's figs. 1 and 2.

4. *Nomenclatorial relationship of the nominal genera* Pictonia *Bayle*, 1878, *and* Rasenia *Salfeld*, 1913, *with one another :* In the preceding paragraphs, we have seen that the type species of *Pictonia* Bayle, 1878, is, under the *Règles*, the nominal species *Ammonites cymodoce* d'Orbigny, 1850 (paragraph 2) and that the same nominal species is the type species of *Rasenia* Salfeld, 1913. Thus, under the *Règles*, the generic name *Rasenia* Salfeld, 1913, is a synonym of *Pictonia* Bayle, 1878 (the nominal genera, so named, having the same nominal species as their respective type species). Under a strict application of the *Règles*, the generic name *Rasenia* Salfeld, 1913, is an invalid name and disappears from the literature, unless the Commission confers availability upon it by varying its type species under the plenary powers.

The identity of the nominal species " Ammonites cymodoce " d'Orbigny, 1850

5. Having ascertained that, under the *Règles*, the nominal species *Ammonites cymodoce* d'Orbigny, 1850, is the type species both of *Pictonia* Bayle, 1878, and of *Rasenia* Salfeld, 1913, we have now to consider the question, partly nomenclatorial and partly taxonomic, of the identity of the species to which under the *Règles* the specific name *Ammonites cymodoce* d'Orbigny, 1850, properly applies. The nomenclatorial procedure for determining the type specimen of a nominal species or the figure or description which exclusively represents the type specimen of a nominal species, both where such a species is regarded by specialists as having originally been a composite species and where it is not so regarded, is laid down in Article 31 of the *Règles*, as amplified and clarified by the Thirteenth International Congress of Zoology in 1948 (see, 1950, *Bull. zool. Nomencl.* **4** : 73-76). Taxonomic considerations are involved in such a case only where specialists in the group concerned are of the opinion, as in the present case, that the nominal species under consideration was originally a composite species. In discussing in the following paragraphs this aspect of the present case, I naturally rely entirely upon the views expressed by Dr. Arkell and by the authorities whom he cites, having myself no personal knowledge in this matter.

6. The nominal species *Ammonites cymodoce* d'Orbigny, 1850, was based by its author upon four figures (figs. 1–4) given by him on plate 202 of his work. Figures 1 and 2 represent one specimen, figures 3 and 4 another. These two specimens are therefore the sole syntypes of this nominal species, the first syntype being represented by figs. 1 and 2, the second, by figs. 3 and 4. These two syntypes have since the time of Tornquist (1896 : 8) been regarded as being specifically distinct from one another. In the ensuing discussion, I refer to the species represented by the syntype represented by figs. 1 and 2 as Species " A," and to the species represented by the syntype represented by figs. 3 and 4 as Species " B." In the following table I have assembled certain particulars in regard to species " A " and species " B " given by Dr. Arkell, which throw important light both on the nature of the problem and on the character of the action required to avoid the confusion apprehended by Dr. Arkell.

Particulars relating to the two taxonomic species considered by specialists to have been included by d'Orbigny in his composite nominal species " Ammonites cymodoce " d'Orbigny, 1850

	Species " A "	*Species " B "*
Figure given by d'Orbigny.	Figs. 1 and 2 on pl. 202.	Figs. 3 and 4 on pl. 202.
Relationship of d'Orbigny's figures to the specimens claimed by Lemoine to have been identified as the syntypes on which those figures were based	" The larger specimen is clearly the one represented in d'Orbigny's larger figures, figs. 1 and 2 " (Arkell).	" The smaller specimen figured by Lemoine differs in many respects from d'Orbigny's smaller figures, figs. 3 and 4, and it seems very doubtful whether the specimen has been correctly identified." (Arkell).
Species to which the name *Ammonites cymodoce* d'Orbigny applies through the selection of a lectotype from the original syntypes	—	Tornquist (1896) selected figures 3 and 4 on pl. 202 to represent the lectotype of *Ammonites cymodoce* d'Orbigny, which thus became the name of Species " B."
Name given to the syntype not selected as the lectotype of *Ammonites cymodoce* d'Orbigny	Tornquist (1896) established a new nominal species, *Pictonia orbigni*, expressly based on d'Orbigny's figs. 1 and 2.	—
Relative size of d'Orbigny's syntypes	Larger than that represented by d'Orbigny's figs. 3 and 4.	Smaller than the syntype represented by d'Orbigny's figs. 1 and 2.
Distinguishing characters of d'Orbigny's syntypes	" A smooth ammonite with flared ribs on the inner whorls " (Arkell).	" A strongly ribbed ammonite showing ribs swung well forward but none of them flared"(Arkell).
Genera to which species corresponding with d'Orbigny's syntypes commonly referred	*Pictonia* Bayle, 1878.	*Rasenia* Salfeld, 1913.

7. The data assembled in the foregoing table show :—

(a) that *Ammonites cymodoce* d'Orbigny, 1850, the type species, under the *Règles* (paragraph 2) of *Pictonia* Bayle, 1878, is in fact a species belonging to the group referred to the genus *Rasenia* Salfeld, 1913 ;

(b) that the acceptance of the above species as the type species of *Pictonia* Bayle, 1878, by involving the transfer to that genus of the species at present referred to *Rasenia* Salfeld, 1913, and the transfer to some other genus of the species currently referred to *Pictonia* Bayle, would create confusion in the nomenclature of the genera and species concerned.

Species intended by Bayle to be referred to the genus " Pictonia " Bayle, 1878, as contrasted with the species referable thereto under the " Règles " in consequence of " Ammonites cymodoce " d'Orbigny, 1850, being the type species of that genus.

8. We have seen (paragraph 2) that the type species of *Pictonia* Bayle, 1878, under the *Règles* is *Ammonites cymodoce* d'Orbigny, 1850, and (paragraph 7) that this species is not a species of the genus *Pictonia* Bayle, as currently understood. This is because a further error of determination was committed by Bayle himself who, when citing the above species in explanation of his plate lxvi, applied to it the figure of a specimen of a different species. This error was detected by Salfeld in 1913 who gave to the species figured by Bayle the name *Pictonia baylei*. In 1917 Salfeld followed this up by selecting *Pictonia baylei* Salfeld, 1913, as the type species of the genus *Pictonia* Bayle. In this action Salfeld has been generally followed by later writers and it is this practice that has given rise to the current conception of the genus *Pictonia*. Salfeld's action in 1917 was invalid, because, as already explained (paragraph 2), the type species of *Pictonia* Bayle had been *Ammonites cymodoce* d'Orbigny, by monotypy, from the moment that the name *Pictonia* was first published in 1878.

Action suggested to prevent the confusion which would follow the strict application of the " Règles " in the present case.

9. The Thirteenth International Congress of Zoology, when revising the *Règles* in Paris in 1948, provided (as indicated in paragraph 3 above) a remedy in cases where the acceptance, as the type species, of the nominal species designated, indicated or selected as such under Article 30 of the *Règles* would clearly lead to confusion, owing to the nominal genus in question having been based upon a misidentified type species. The remedy so provided (see 1950, *Bull. zool. Nomencl.* **4** : 158–159) was that the Commission, if satisfied that such a misidentification had occurred, is " under its plenary powers, to designate as the type species of the genus concerned, either (a) the species intended by the original author when citing the name of the erroneously determined species, or (b) if the identity of that species is doubtful, a species in harmony with current nomenclatorial usage." It is this provision which Dr. Arkell seeks to invoke in the present case.

10. The purpose of the action recommended being to secure that the nominal genera *Pictonia* Bayle, 1878, and *Rasenia* Salfeld, 1913, shall have, as their respective species, species which are in harmony with the current usage of the generic names, the first action required is that the Commission should use its plenary powers to set aside all type designations, indications or selections made for either of the foregoing nominal genera prior to the date of the action proposed. When we turn to the question of the species which should be designated under the plenary powers to be the type species of these genera, it is immediately evident that in the case of the genus *Pictonia* Bayle, 1878, the species which should be designated as the type species is *Pictonia baylei*, 1878, that being (a) the species figured by Bayle (under the erroneous name *Pictonia cymodoce* d'Orbigny) at the time when he first published the generic name *Pictonia*, and (b) the species which is commonly (though incorrectly) regarded as the type species of that genus and which in consequence has given rise to the commonly accepted concept of the scientific content of this genus. When we turn to the question of the type species of the genus *Rasenia* Salfeld, 1913, the position is found to be somewhat different. In this case, the type species (*Ammonites cymodoce* d'Orbigny, 1850) is, as specialists agree, a species belonging to the genus *Rasenia* as currently understood. Dr. Arkell has expressed the opinion, however, that the grave discrepancies between d'Orbigny's figs. 3 and 4 (representing the lectotype of *Ammonites cymodoce* d'Orbigny) and the specimen claimed by Lemoine (1904) to be the actual specimen from which those figures were prepared throw the specific identity, he thinks, even the generic affinities, of that nominal species into doubt and make it unsuitable to be the type species of this important genus. I agree with the view expressed by Dr. Arkell in this matter and concur in his suggestion that some species of undoubted identity, and one clearly belonging to the genus *Rasenia* Salfeld, as currently understood, should be designated as the type species of that genus. The species suggested for this purpose by Dr. Arkell is *Rasenia involuta* (Salfeld M.S.) Spath. 1935 (*Meddelelser Gronland* **99** (No. 2) : 48 pl. 10, figs. 5a. 5b). I should add that, if the nominal species *Ammonites cymodoce* d'Orbigny is to be displaced for the foregoing reasons, from its position as the type species of *Rasenia* Salfeld, the logical course would be to recognise that the specific name *Ammonites cymodoce* d'Orbigny, 1850, is an unwanted *nomen dubium* and therefore to suppress that name, thereby eliminating any further waste of time in discussion as to the possible identity of the taxonomic species which it was intended to represent. If these general conclusions were to be accepted by the Commission, a number of routine decisions, in regard to the addition of the various names concerned to the appropriate *Official List* or *Official Index*, would follow in the wake of the main decision. The detailed decisions which (as Dr. Arkell agrees *in litt.*,10. ix. 1950) would be called for on the basis discussed above, are as follows :—

(1) that the plenary powers of the Commission should be used :

(a) to set aside all type designations, indications or selections made for the undermentioned genera prior to the date of the proposed decision :—

(i) *Pictonia* Bayle, 1878 ;

(ii) *Rasenia* Salfeld, 1913 ;

(b) to designate *Pictonia baylei* Salfeld, 1913 (based upon Bayle's (1878 plate lxvi) to be the type species of *Pictonia* Bayle, 1878 ;

(c) to designate *Rasenia involuta* (Salfeld M.S.) Spath, 1935 (as represented by figs. 5a and 5b on Spath's plate 10) to be the type species of *Rasenia* Salfeld, 1913;

(d) to suppress the trivial name *cymodoce* d'Orbigny, 1850 (as published in the binominal combination *Ammonites cymodoce*);

(2) that the generic names *Pictonia* Bayle, 1878, and *Rasenia* Salfeld, 1813 (gender of both generic names, feminine), with the type speices respectively designated therefor in (1) above, should be placed on the *Official List of Generic Names in Zoology*;

(3) that the undermentioned trivial names should be placed on the *Official List of Specific Trivial Names in Zoology*:—

(a) the name *baylei* Salfeld, 1913 (as published in the binominal combination *Pictonia baylei*), as defined in (1) (b) above;

(b) the name *involuta* (Salfeld M.S.) Spath, 1935 (as published in the binominal combination *Rasenia involuta*), as defined in (1) (c) above;

(4) that the trivial name *cymodoce* d'Orbigny, 1850 (as published in the binominal combination *Ammonites cymodoce*) should be placed on the *Official Index of Rejected and Invalid Specific Trivial Names in Zoology*.

PROPOSED USE OF THE PLENARY POWERS TO DESIGNATE THE TYPE SPECIES OF THE GENUS "AULACOSTEPHANUS" TORNQUIST, 1896 (CLASS CEPHALOPODA, ORDER AMMONOIDEA) (JURASSIC)

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(Commission's reference Z.N.(S.)384)

The case of the generic name *Aulacostephanus* was fully reviewed by me in 1935 (*Geol. Mag.* **72** : 252-253, 256), when I recommended that the Commission should stabilize usage by ruling that the type be *Am. mutabilis* d'Orbigny *nec* Sowerby, which the authors presumably had in mind and intended (= *Am. pseudomutabilis* de Loriol). No published dissent from this recommendation has come to my notice, nor has any been received privately ; hence I now ask the International Commission on Zoological Nomenclature to use its plenary powers to stabilise current usage by giving effect to my recommendation of 1935.

The relevant facts are as follows :—

(1) The name *Aulacostêphanus* first appears on page 5 of Tornquist's memoir (1896), where he remarked that *Olcostephanus berryeri*, *eumelus* and *pseudoeumelus* are of interest on account of their relationship to "*Aulacostephanus* (*Am. mutabilis*)." On page 7 he explained that Pompeckj in a letter had informed him of von Sutner's and Pompeckj's intention to propose the name *Aulacostephanus* for "*Reineckeia*" *mutabilis* Sowerby and its allies. No other species is mentioned by name in either place. Hence on the strict interpretation of the *Règles*, the nominal species *Ammonites mutabilis* J. de. C. Sowerby, 1823 (Min. Conch. **4** : 145 pl. ccccv) is the type species of this genus.

(2) *Ammonites mutabilis* J. de C. Sowerby, from the Glacial Drift, was obscurely figured by Sowerby and inadequately described. The holotype has since been refigured by me (1933 : pl. xxxix, figs. 5, 5a) and it does not belong to the group which, like *Reineckeia*, has a ventral smooth band. Had Sutner and Pompeckj consulted Sowerby's holotype, they would never have referred to this species as "*Reineckeia mutabilis*." It is, in fact, a species of the genus which Salfeld (1914) called *Rasenia* ; Salfeld (1914, : 129) in his important stratigraphical work assigned it to *Rasenia*, and it has ever since been known as a zonal index fossil under the name *Rasenia mutabilis*.

(3) Sutner and Pompeckj and Tornquist, therefore, were interpreting *Am. mutabilis* by some other figure, and it is highly probable that this figure was that of d'Orbigny (1850 : 553, pl. ccxiv), which shows admirably one of the smooth-ventered forms with ribs interrupted over the siphuncle. The species so figured was later renamed *Ammonites pseudomutabilis* by de Loriol (1874 : 28, pl. v, figs. 1–3). The specimen figured by d'Orbigny was selected as the lectotype of this species by Durand (1932 : 306).

(4) Salfeld (1914. *loc. cit.*) when establishing his zonal classification of the Upper Jurassic placed *Am. pseudomutabilis* de Loriol, together with the allied *Am. yo* d'Orbigny and *Am. eudoxus* d'Orbigny, in the genus *Aulacostephanus*, without comment. These species and others have been called *Aulacostephanus* by authors ever since, and Salfeld's separate zones of *Rasenia mutabilis* and *Aulacostephanus pseudomutabilis* are in current use by all stratigraphers.

(5) To reverse current usage by transferring the name *Aulacostephanus* to what has always been known as *Rasenia*, and to rename *Aulacostephanus* auct. would cause serious confusion, in stratigraphy as well as in palaeontology.

(6) Two attempts have been made to fix the name *Aulacostephanus* on the *Reineckeia*-like genus for which it was certainly intended. Spath (1925 : 152) wrote, without stating that he was selecting a type species, " *Aulacostephanus* (type : *A. eudoxus* d'Orbigny)." Schindewolf (1925 : 339) selected *A. phorcus* Fontannes, but added in a footnote that he had been forestalled by Spath who had selected *A. eudoxus*.

(7) Since neither *A. eudoxus* nor *A. phorcus* was mentioned by the original author (Tornquist) in connexion with the generic name *Aulacostephanus*, neither is eligible for selection as the type species of the genus so named.

(8) In order to stabilise the nomenclature of this group and to prevent the serious confusion, both in stratigraphy and palaeontology, which would result from the strict application of the *Règles* in this case, the International Commission is asked :—

(1) to use its plenary powers :—

(a) to set aside the indication by monotypy of *Ammonites mutabilis* Sowerby (C. de J.), 1823, as the type species of *Aulacostephanus* Tornquist, 1896 ;

(b) to designate *Ammonites pseudomutabilis* de Loriol, 1874, to be the type species of the foregoing genus ;

(2) to place the generic name *Aulacostephanus* Tornquist, 1896 (gender of generic name : masculine) (type species, by designation under the plenary powers under (1) (b) above : *Ammonites pseudomutabilis* de Loriol, 1874) on the *Official List of Generic Names in Zoology ;*

(3) to place the under-mentioned trivial names on the *Official List of Specific Trivial Names in Zoology :—*

(a) *mutabilis* Sowerby (C. de J.), 1823 (as published in the binominal combination *Ammonites mutabilis*) ;

(b) *pseudomutabilis* de Loriol, 1874 (as published in the binominal combination *Ammonites pseudomutabilis*).

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PROPOSED USE OF THE PLENARY POWERS TO DESIGNATE THE TYPE SPECIES OF WAAGEN'S (1869) AMMONITE GENERA "KOSMOCERAS," "HARPOCERAS" AND "PERISPHINCTES" (CLASS CEPHALOPODA, ORDER AMMONOIDEA) (JURASSIC)

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1. In a long footnote Waagen (1869 : 247–8) founded six new genera of Jurassic ammonites, the names given to which have since become "household words," but the three here dealt with are without satisfactory type species.

2. *Kosmoceras* Waagen, 1869 (: 248). This name rests on the following original diagnosis alone : "The third group comprises the Ornati, which can appropriately be named *Kosmoceras* and distinguished by its short body-chamber, which occupies hardly more than half a whorl." No species was cited by Waagen. Haug (1887) made a family KOSMOCERATIDAE, and Buckman (1926) a superfamily KOSMOCERATACEAE. Buckman (1921 : 54) considered all the Ornati named before 1869 as included species and therefore available for selection as the type species. He accordingly selected *Am. ornatus rotundus* Quenstedt, 1846, as the type species. This species is subjectively identified with *Am. spinosus* J. de C. Sowerby, 1826 (*Min. Conch.* **6** : 78) (refigured Arkell, 1939 : 184, 187, pl. xi, fig. 1), from the Oxford Clay, Lamberti Zone, Weymouth.

3. *Perisphinctes* Waagen, 1869 (: 248). This rests on a somewhat longer diagnosis to which Waagen added : "To this subgenus (of *Stephanoceras*) belong all the true Planulati of the Middle and Upper Jurassic, and besides them *Per. anceps*, *astierianus*, etc." It so happens, therefore, that the only two nominal species cited by Waagen are species which he mentioned for the reason that they do *not* fall within the well-known group for which primarily he introduced the name *Perisphinctes*. He was stretching the concept to include them. Steinmann (1890) made a family PERISPHINCTIDAE, and Wedekind (1917) a superfamily PERISPHINCTACEAE, while as yet no type species had been selected. Buckman (1920 : 26-27) considered all Planulates of the Middle and Upper Jurassic named before 1869 should be regarded as originally included species and therefore available for selection as the type species. He accordingly so selected *Am. biplex* J. Sowerby, 1821. The holotype of this species (refigured Arkell, 1947 : 362) is a distorted fragment of inner whorls, not identifiable specifically, from the Drift, ex Ampthill Clay, Upper Oxfordian. It might belong to one of at least three species, of which the best-known and earliest named and most probable is *P. variocostatus* Buckland, 1836, and this has been taken as the standard for defining the genus and subgenus *Perisphinctes* (see Arkell, 1947 : 363, pl. lxxxvi, figs. 1–4).

4. *Harpoceras* Waagen, 1869 (: 245, 250). This genus is in the same position as *Perisphinctes.* Waagen (1869 : 245) proposed it for the Falciferi of the Lias but named no species of the true Falciferi, only (: 250) ten species for which he was stretching the definition to bring them in. None of these ten species has had a well-known generic name for less than 50 years. To consider them the sole species eligible for selection as the type species would be disastrous. Neumayr (1875) made a subfamily HARPOCERATINAE, Zittel (1884) a family HARPOCERATIDAE, and Wedekind (1917) a superfamily HARPOCERACEA. The first selection of a type species seems to have been by Fischer (1882 : 392) who selected *A. serpentinus* Schlotheim, 1813, an unfigured and problematic species. Buckman (1919 : pls. cxxxviii, A, B, and 1926 : pl. cxxxviii, C) considered that the species should be interpreted by Reinecke's figure of 1818, which he reproduced ; at the same time he named the genus *Hildoceratoides* ; this species does not belong to the subfamily HARPOCERATINAE Neumayr (1875) but to the family and subfamily HILDOCERATIDAE Hyatt, 1867, so that if it were accepted as the type species, HARPOCERATINAE would disappear as synonym of HILDOCERATINAE. Buckman (1928 : pl. dcclxiv), apparently unaware of Fischer's type selection, selected *Am. falcifer* J. Sowerby, 1820 (Min. Conch. **3** : 99), as the type species of Waagen's *Harpoceras* and refigured Sowerby's holotype, from the Upper Lias of Barrington, Somerset, a readily identifiable specimen of a species on which von Buch's " family Falciferi " was founded and of which it was always regarded as the type species by virtual tautonomy. The genus *Harpoceras* having been founded expressly for the Falciferi ought to have *A. falcifer* as its type species, notwithstanding Fischer's designation. Buckman did in fact regard this species in this light as from 1887, although he did not so select it in the strict meaning of the term.

5. In order to avoid the serious disturbance in the literature of Jurassic ammonites and the confusion both in nomenclature and systematics which would follow the strict application of the *Règles* in the case of the generic names discussed above, I ask the International Commission on Zoological Nomenclature :—

(1) to use its plenary powers (a) to set aside all selections of type species for the under-mentioned genera made prior to the proposed decision and (b) to designate as their respective type species the species severally specified below :—

Name of Genus. (1)	*Gender of generic name.* (2)	*Name of Species proposed to be designated as the type Species of the genus specified in Col.* 1. (3)
Kosmoceras Waagen, 1869 ...	N	*Ammonites spinosus* Sowerby (J. de C.), 1826.
Perisphinctes Waagen, 1869...	M	*Ammonites varioeostatus* Buckland, 1836.
Harpoceras Waagen, 1869 ...	N	*Ammonites falcifer* Sowerby (J.), 1820.

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*See also p. 199.

(2) to place on the *Official List of Generic Names in Zoology* the three generic names specified in Col. (1) above with the type species specified in Col. (3) in (1) above, proposed to be so designated under the plenary powers :—

(3) to place on the *Official List of Specific Trivial Names in Zoology* the under-mentioned trivial names :—

(a) *falcifer* Sowerby, 1820 (as published in the binominal combination *Ammonites falcifer*) ;

(b) *spinosus* Sowerby, 1826 (as published in the binominal combination *Ammonites spinosus*) ;

(c) *variocostatus* Buckland, 1836 (as published in the binominal combination *Ammonites variocostatus*).

References :

Arkell, W. J., 1939. *Quart. J. geol. Soc. Lond.* **95** : 184, 187.

Arkell, W. J., 1947. Monograph on the Ammonites of the English Corallian Beds, part 13 : 362, 363. (*Palaeont. Soc. Lond.*)

Buckman, S. S., 1887. "On *Ammonites serpentinus, Am. falcifer, Am. elegans*, etc." *Geol. Mag.* (3) **4** : 396.

Fischer, P., 1882. Manuel de Conchyliologie : 392.

Schlotheim, E. F. von, 1813. In Leonhard's *Taschenbuch für die gesamte Mineralogie* (Frankfurt).

Waagen, W., 1869. Die Formenreihe des Ammonites subradiatus. *Geognost. Paläont. Beiträge*, **2** (Heft 2) : 181.

PROPOSED USE OF THE PLENARY POWERS TO SUPPRESS THE NAME " PLANITES " DE HAAN, 1825, AND TO DETERMINE THE USE OF THE NAME " NAUTILUS POLYGYRATUS " REINECKE, 1818 (CLASS CEPHALOPODA, ORDER AMMONOIDEA) (JURASSIC)

By W. J. ARKELL, M.A., D.Sc., F.R.S.

(*Sedgwick Museum, Cambridge University, Cambridge*)

(Commission's reference Z.N.(S.)402)

1. The present application is concerned with the problem raised by the generic name *Planites* de Haan, 1825 (: 34). This case has been discussed in my Monograph on the Ammonites of the English Corallian Beds (1936–37 : xxxv-xxxvii, lxiv-lxv), where the recommendation was made that the name *Planites* de Haan should be suppressed in order to avoid the chaotic confusion which would otherwise be inevitable. The facts of this case are set out below :—

(1) The generic name *Planites* de Haan, 1825 was applied in the first instance to all manner of ammonites from Lower Lias to Portland Stone, belonging to what are now regarded as many different families.

(2) In form and vagueness of application this genus ranks with *Ammonites*, *Ostracites*, *Pectinites*, etc., and for nearly a century this name was ignored by all authors.

(3) Buckman (S.) in 1913 (**2** : iv) revived the name *Planites* de Haan by selecting as the type species of the genus so named the nominal species *Nautilus polygyratus* Reinecke, 1818 (: 73, pl. v, figs. 45–46). This species was believed by Buckman to be the only nominal species originally included by de Haan in *Planites* that had not already been assigned to some other genus. It was however a far-fetched selection, for among all the varied species assigned to *Planites* by de Haan, *Nautilus polygyratus* Reinecke was mentioned by him only in connection with *Planites plicatilis* (Sowerby), in the synonymy of which Reinecke's *polygyratus* was cited (de Haan, 1825 : 87).

(4) The type specimen of the nominal species *Nautilus polygyratus* Reinecke is lost and the identity of the taxonomic species represented by this nominal species is a matter of uncertainty. There are two interpretations of this nominal species, the first by de Loriol (1877 : 61, pl. vii, figs. 1, 1a), which was accepted by Schindewolf (1926 : 512) and Spath (1931 : 444), the second by Wegele (1929 : 47, pl. i, fig. 6). The latter interpretation appears the more probable ; Wegele's figure of a supposed chorotype is reproduced in my monograph (1936 : pl. C, fig. 5).

2. Except from the standpoint of authors who accept an unwarrantable pulverisation of genera, *Nautilus polygyratus* Reinecke, in Wegele's interpretation certainly, and probably also in that of de Loriol, Schindewolf and Spath, belongs to a group at most subgenerically distinct from *Perisphinctes* Waagen, 1869. Thus, under a strict application of the *Règles*, the name *Planites* de Haan, having been published in 1825, would take precedence over the name *Perisphinctes* Waagen, 1869 ; the latter would thus either fall as a synonym of *Planites* or at best become the name of a subgenus of *Planites*.

3. The name *Perisphinctes* Waagen applies to one of the most important of all ammonite genera, of long geological range and of world-wide distribution. This generic name has probably been more widely used in geological literature during the past eighty years than has that of any other cephalopod genus. To discard it on the strength of Buckman's revival of the long forgotten name *Planites* would be monstrous and would certainly lead to widespread confusion. Accordingly I consider that the name *Planites* de Haan, 1825, should be suppressed under the Commission's plenary powers. I am of the opinion also that it is desirable that the generic name *Perisphinctes* Waagen, 1869, should be protected as soon as possible by being placed on the *Official List of Generic Names in Zoology*. There is however a further problem in connection with this generic name which needs to be cleared up before it can be placed on the *Official List*. I am submitting to the Commission herewith a separate application on this subject.*

4. I consider further that the present opportunity should be taken to determine authoritatively the taxonomic species which is to be accepted as that represented by the nominal species *Nautilus polygyratus* Reinecke, for the name *polygyratus* is widely used and extremely well known and it is highly desirable that the present state of confusion and doubt regarding the manner in which this name should be used should be brought to an end with as little further delay as possible. I accordingly recommend that the Commission should make use of the extension of the plenary powers granted to it by the Thirteenth International Congress of Zoology in Paris in 1948 for the purpose of determining how the *Règles* should be applied in cases where it was doubtful to what species a given name should be held to apply (1950, *Bull. zool. Nomencl.* **4** : 324), and should, under the foregoing powers, designate the supposed chorotype figured by Wegele to be the figure by which the nominal species *Nautilus polygyratus* Reinecke is to be interpreted. So interpreted, *N. polygyratus* would be referable to the genus *Biplices* Siemiradzki, 1891 (: 63), if it were not for the fact that that name does not comply with the requirements of Article 8 and is, in consequence, invalid ; in these circumstances *N. polygyratus*, defined as suggested above, would be referable to *Orthosphinctes* Schindewolf, 1925 (: 324), the type species of which by original designation is *Ammonites tiziani* Oppel, 1863 (: 246) (which is also the type species of *Biplices* Siemiradzki, by selection by Buckman in 1921 (**3** : 31)). In my view, *Orthosphinctes* Schindewolf is a subgenus of *Perisphinctes* Waagen. In view of the connection of the generic name *Orthosphinctes* with the problem discussed in the present application, I suggest that it should be placed on the *Official List*.

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*See pp. 191—193.

5. For the reasons set forth in the present application, I request the International Commission on Zoological Nomenclature :—

(1) to use its plenary powers :—

   (a) to suppress the generic name *Planites* de Haan, 1825, for the purposes of the Law of Priority but not for those of the Law of Homonymy ;

   (b) to direct that the trivial name *polygyratus* Reinecke, 1818 (as published in the binominal combination *Nautilus polygyratus*) is to be held to apply to the species represented by the specimen from Pappenheim in Franconia figured in 1929 by Wegele (L.) as figure 6 on plate 1 in volume 72 of *Palaeontographica* in a paper entitled " Stratigraphische und faunistische Untersuchungen im Oberoxford und Unterkimmeridge Mittelfrankens " ;

(2) to place the undermentioned generic names on the *Official Index of Rejected and Invalid Generic Names in Zoology* :—

   (a) *Planites* de Haan, 1825 (as proposed to be suppressed under the plenary powers under (1)(a) above) ;

   (b) *Biplices* Siemiradzki, 1891 (invalid because not formed in accordance with the provisions of Article 8) ;

(3) to place the name *Orthosphinctes* Schindewolf, 1925 (gender of generic name : masculine) (type species, by original designation : *Ammonites tiziani* Oppel, 1863) on the *Official List of Generic Names in Zoology ;*

(4) to place the under-mentioned trivial names on the *Official List of Specific Trivial Names in Zoology* :—

   (a) *polygyratus* Reinecke, 1818 (as published in the binominal combination *Nautilus polygyratus*) (as proposed to be determined under the plenary powers under (1)(b) above) ;

   (b) *tiziani* Oppel, 1863 (as published in the binominal combination *Ammonites tiziani*) (type species of *Orthosphinctes* Schindewolf, 1925).

References :

Arkell, W. J., 1935-1948. " A Monograph on the Ammonites of the English Corallian Beds " (Palaeontographical Soc.).

Buckman, S. S., 1909-1930. " Yorkshire Type Ammonites."

Haan, G. De, 1825. " Specimen Philosophicum inaugurale, exhibens Monographiam Ammoniteorum et Goniatiteorum. . . ."

Loriol, P. De, 1876-1878. " Monographie paléontologique des Couches de la Zone à *Ammonites tenuilobatus* de Baden (Argovie)," *Mém. Soc. pal. Suisse* **3-5.**

Oppel, A., 1863. " Über jurassische Cephalopoden," *Pal. Mittheil. Mus. Bayer.-Staates,* **3** : 246.

Reinecke, D. J. C. M., 1818. " Maris protogæi Nautilos et Argonautas. . . ."

Schindewolf, O. H., 1925. " Entwurf einer Systematik der Perisphincten," *Neus Jahrb. für Min.,* **52** (*Beil.*) : 324.

——, 1926. " Zur Systematik der Perisphincten," *Neus Jahrb. für Min.,* **55** (*Beil.*) : 495-517.

Siemiradzki, J. von, 1891. " Fauna Kopalna warstw Oxfordzkichi i Kimerydzkich " : 63 (Krakowie).

Spath, L. F., 1931. " Revision of the Jurassic Ammonite Fauna of Kachh (Cutch)," Part 4. *Pal. indica* (n.s.), **9**, mem. 2.

Waagen, W., 1869. " Die Formenreihe des *Ammonites subradiatus.*" Benecke's *Geogn. Pal. Beiträge* **2** (2) : 181-256.

Wegele, L., 1929. " Stratigraphische und faunistische Untersuchungen im Oberoxford and Unterkimmeridge Mittelfrankens." *Palaeontographica,* **71** : 119 ; **72** : 1.

APPLICATION FOR THE SUPPRESSION UNDER THE PLENARY POWERS OF FIVE EARLY GENERIC NAMES NOW FALLEN INTO DISUETUDE PUBLISHED FOR AMMONITES (CLASS CEPHALOPODA, ORDER AMMONOIDEA)

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(Commission's reference Z.N.(S.)423)

1. The following generic names have ceased to be used for genera of Ammonites for at least a century, but recent attempts to revive some of them by the selection of type species has shown that they constitute a menace to ammonite nomenclature and classification :—

Planulites Lamarck, 1801, *Syst. Anim. sans Vertèbr.* : 101.

Orbulites Lamarck, 1801, *ibid.* : 100.

Pelagus Montfort, 1808, *Conch. syst.* **1** : 62.

Ellipsolithes Montfort, 1808, *ibid.* **1** : 86.

Globites de Haan, 1825, *Specimen philosophicum exhibens Monographiam Ammoniteorum et Goniatiteorum :* 37. (The same work was published later in 1825 under the title : *Monographiae Ammoniteorum et Goniatiteorum Specimen.*)

2. *Planulites* Lamarck, 1801. In 1923 Buckman (pl. cccxciii) revived this name and reproduced Bourget's figure cited by Lamarck. It is unrecognizable, but might be a *Hildoceras*. If so, it invalidates the long-established genus *Hildoceras* Hyatt, 1867, and the family HILDOCERATIDAE Hyatt, 1867, in universal use.

3. *Orbulites*, *Pelagus*, *Globites*. It is uncertain whether some of these names correctly apply to ammonites or foraminifera, but Breistroffer (1947 : 81–82) has recently stated that at least the first two, and the third *pro parte*, invalidate *Phylloceras* Suess, 1865, one of the most important ammonite genera and the type genus of the family PHYLLOCERATIDAE Zittel, 1884.

4. *Ellipsolithes* Montfort, 1808. According to Fischer (1882 : 395) this is a synonym of *Perisphinctes* Waagen, 1869, another of the most important ammonite genera, and the type genus of the family PERISPHINCTIDAE Steinmann, 1890.

6. I accordingly request the International Commission to use its plenary powers to suppress the five generic names specified in the first paragraph of the present application on the ground that their re-introduction at the present time would lead to serious confusion and would serve no useful purpose whatever. I further ask that, when these names are suppressed, they be placed on the *Official Index of Rejected and Invalid Generic Names in Zoology.*

7. Further, since the object of the present application is to protect, from attack by the long forgotten names now proposed to be suppressed, the important generic names *Hildoceras* Hyatt, 1867, *Phylloceras* Suess, 1865, and *Perisphinctes* Waagen, 1869, I recommend that the two first of these names should at once be placed on the *Official List of Generic Names in Zoology* and that the trivial names of their respective type species should at the same time be placed on the *Official List of Specific Trivial Names in Zoology.* I do not make an immediate similar recommendation in the case of the name *Perisphinctes* Waagen, for in this case there is a further difficulty in regard to its type species, on which I have submitted a separate proposal to the International Commission (file Z.N.(S.)445). My immediate proposals for additions to the *Official Lists* are therefore as follows :—

(1) *Names proposed to be added to the " Official List of Generic Names in Zoology ".*

Hildoceras Hyatt, 1867, *Bull. Mus. comp. Zool.* **1**(5) : 99 (type species, by subsequent selection, by Buckman (S.), 1889 (*Monogr. Inferior Oolite Ammonites* (Pal. Soc.) : 111) : *Ammonites bifrons* Bruguière, 1789, *Ency. méth.* (Vers) (1) : 40) (gender of generic name : neuter).

Phylloceras Suess, 1865, *SitzBer. Akad. Wiss. Wien* **52**(1) : 76 (type species, by original designation : *Ammonites heterophyllus* Sowerby (J.), 1820, *Min. Conch.* **3** : 119) (gender of generic name : neuter).

(2) *Names proposed to be added to the " Official List of Specific Trivial Names in Zoology ".*

heterophyllus Sowerby (J.), 1820 (as published in the binominal combination *Ammonites heterophyllus*):

bifrons Bruguière, 1789 (as published in the binominal combination *Ammonites bifrons*).

References :

Breistroffer, M., 1947. *Trav. Lab. Géol. Grenoble,* **26** : 1.

Buckman, S. S., 1923. Type Ammonites, **4**.

Fischer, P., 1882. Manuel de Conchyliologie.

Hyatt, A., 1867. The fossil cephalopods of the Museum of Comparative Zoology, *Bull. Mus. comp. Zool.*, Harvard, **3**, No. 5.

Hyatt, A., 1900. Eastman's Zittel, Text-book of Palaeontology, 1st ed.

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*See pp. 191—193,

PROPOSAL TO SUPPRESS THE GENERIC NAME "AMMONITES" BRUGUIÈRE, 1789, UNDER THE PLENARY POWERS AND TO PLACE THE GENERIC NAME "ARIETITES" WAAGEN, 1869 (CLASS CEPHALOPODA, ORDER AMMONOIDEA) ON THE "OFFICIAL LIST OF GENERIC NAMES IN ZOOLOGY"

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(Commission's reference Z.N.(S.)425)

1. The question of the type species of the genus *Ammonites* Bruguière, 1789, has been discussed at length by Buckman (1923, 1924) and Spath (1924, 1946) and others. From these discussions the following essential points have emerged (paras. 2, 3, 4).

2. The type species of *Ammonites* Bruguière, 1789, is *A. bisulcatus* Bruguière, 1789, so selected by Meek, 1876.

3. *A. bisulcatus* Bruguière was based on a number of cited figures in 17th and 18th century authors.

4. The lectotype of *A. bisulcatus* Bruguière is the perspective figure in Lister, 1678 (vi, fig. 3), so selected by Buckman, 1923.

5. Buckman identified Lister's figure as a *Paltopleuroceras* (recte *Pleuroceras*) from the Upper Domerian and thought it came from Northamptonshire (Buckman, 1923 : 56–57, pl. cccxcii, Lister's figure reproduced).

6. Lister's text contains nothing to connect particular figures with particular localities, but of the localities mentioned by Lister the two rightly chosen by Buckman as most likely, the banks of Bugthorpe Beck and the hill above Byland Abbey, are both in Yorkshire as stated by Lister. The most likely locality is the banks of Bugthorpe Beck, which Fox-Strangways (1892 : 68) mentions as exposing sections principally in the zones of *A. bucklandi* and *A. angulatus*.

7. The detail of the carina, which is clear in Lister's engraving, is lost in Buckman's half-tone reproduction. What Buckman apparently took for a serrated carina is seen in Lister's engraving to be the rib-endings on the far side, shown (quite correctly) in perspective ; the carina is clearly shown in Lister's engraving as smooth.

8. These morphological data, combined with the probable locality, make it highly probable that the type specimen of Lister's pl. vi, fig. 3, is an Arietid (*sensu lato*) from the Sinemurian of Yorkshire, and it is possible that topotypes may one day be found sufficiently like Lister's figure to enable the genus to be interpreted.

9. Meanwhile a search of the Leckenby collection of Yorkshire ammonites and other rich Lias material in the Sedgwick Museum has failed to reveal to me anything identifiable beyond doubt as the genus figured by Lister. Spath (1946) has declared Lister's figure to be generically indeterminable, and Mr. D. T. Donovan, who has been specialising on Lias ammonites, agrees (*in litt.*).

10. The present position in accordance with the Rules, therefore, is that the genus *Ammonites* Bruguière, 1789, the family AMMONITIDAE Owen, 1836, and the superfamily AMMONITACEA Buckman, 1905, and ultimately the order Ammonoidea de Haan, 1825, rest upon a species of which the type specimen (" ultimate standard of reference ") is unidentifiable generically, although probably one of the Sinemurian family ARIETITIDAE Hyatt, 1874.

11. If the position were left thus, a large part of the classification of Ammonoidea would be liable to be overturned at any time by authors who might claim to be able to identify the genus *Ammonites* from Lister's figure, and their nomenclature would be different from those who were unable to recognise the figure, and from those again who might interpret it differently.

12. Accordingly it is desirable that the International Commission should take action under their plenary powers at the earliest opportunity to stabilise the matter.

13. Two proposals have already been published : (A) Spath (1924 and 1946) has argued that a much later figure by some more modern author should be designated as the neotype of *A. bisulcatus* Bruguière, and the figure which he has proposed should be so selected is that by d'Orbigny (1843), which he considers represents what Meek (1876) had in mind when he designated *A. bisulcatus* lectotype of *Ammonites*. (B) Roman (1938) and Arkell (1940) have expressed the opinion that the genus *Ammonites* ought never to have been revived and should be abolished like many other ancient names long fallen into disuetude (e.g., *Ostracites*, *Pectinites*, etc.).

14. The disadvantages of the course in Para. 13(A) are (1) that as pointed out by Buckman (1924) such action is arbitrary in the extreme : if the genus *Ammonites* Bruguière, 1789, is to be revived, it should stand or fall by its legitimate type species, not have made for it a type species which was not known to exist until more than 50 years later; (2) that d'Orbigny's drawings are notoriously inaccurate and often synthetographs, and pl. 43 is apparently not based on a type specimen ; (3) that the group to which d'Orbigny's pl.43 belongs has for 80 years had a familiar and widely-used generic name, *Arietites* Waagen, 1869 (type species by monotypy *Ammonites bucklandi* J. Sowerby, 1816, Sinemurian zonal index fossil), which is in turn type genus of the widely-used family ARIETITIDAE Hyatt, 1874. Apart from the little-known paper by Meek, 1876 (unknown even to Buckman), the genus *Arietites* and the family ARIETITIDAE (or ARIETIDAE) had been used for half a century in all world literature on Liassic ammonites and in text-books. One of the classics of ammonites is Hyatt's book " Genesis of the ARIETIDAE " (1889), and the leading palaeontological text-book to this day, Eastman's translation of Zittel (1913 : 655) has a figure " *Arietites bisulcatus* Bruguière " to illustrate the family ARIETINAE, and the figure is d'Orbigny's pl. 43 ; and the same figure and the same name are repeated in the latest (German) edition of the same book (1924 : 571).

15. The facts adduced in paragraph 14 above, emphasise that *Ammonites* as used by Buckman and Spath since 1923 was a revival not a survival, and paragraphs 5 to 13 indicate that it was a revival on the flimsiest foundations. Roman (1938) in his comprehensive work on the Jurassic and Cretaceous ammonites rightly refused to displace *Arietites* and ARIETITIDAE by *Ammonites* and AMMONITIDAE.

16. If the generic name *Ammonites* were to be revived, it would become automatically the type genus of the family AMMONITIDAE, which for reasons of priority is attributed (as by Meek) to Owen, with the date 1836. This is misleading, for AMMONITIDÆ Owen 1836 was a vastly wider and altogether different concept. Most families as now used have been emended (which usually means restricted) to some extent, but none to such a degree as this. AMMONITIDAE Owen, 1836, was in fact almost the same as the order AMMONOIDEA, and as de Haan's " family AMMONITEA ", 1825. Consequently, the revival of *Ammonites* as a generic name would involve either its attribution to the family " AMMONITIDAE Owen " which is really something totally different, or the establishment of a new family AMMONITIDAE dating from some later author such as Meek or Spath, arbitrarily chosen (Meek, however, still included cretaceous genera in AMMONITIDAE) ; but this would be a homonym of AMMONITIDAE Owen and invalid.

17. Dr. Spath in his paper of 1946 stated that he proposed to submit an application concerning the type of *Ammonites* to the International Commission, but I learn from the Secretary that no such application has yet been received by the Commission (January, 1950). Since a decision on this important matter is urgently needed, I hereby make the following applications (paragraphs 18, 19).

18. That the International Commission on Zoological Nomenclature should use their plenary powers to suppress the generic name *Ammonites* Bruguière, 1789, for the purposes of Article 25 but not for those of Article 34 (thereby continuing to render invalid as a homonym any later use of the word *Ammonites* as a generic name) and should place this name on the *Official Index of Rejected and Invalid Generic Names in Zoology.*

19. That the Commission should place on the *Official List of Generic Names in Zoology* the generic name *Arietites* Waagen, 1869 (gender of generic name : masculine) (type species, by monotypy : *Ammonites bucklandi* Sowerby (J.), 1816) and on the *Official List of Specific Trivial Names in Zoology* the trivial name *bucklandi* Sowerby (J.), 1816 (as published in the binominal combination *Ammonites bucklandi*).

20. In making this application I assume that when (if ever) the Commission draws up Rules governing the names of taxonomic categories higher than families, it will, if necessary, make provision for retention of the order name AMMONOIDEA, so that it shall not require to be replaced because of the abolition of the generic name *Ammonites* and family name AMMONITIDAE,

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ON THE GENERIC NAMES "SCHLOTHEIMIA" BAYLE, 1878, AND "SCAMNOCERAS" LANGE, 1924; PROPOSED USE OF THE PLENARY POWERS TO VALIDATE THE NAME "AMMONITES ANGULATUS" SCHLOTHEIM, 1820 (CLASS CEPHALOPODA, ORDER AMMONOIDEA) (JURASSIC)

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(Commission's reference Z.N.(S.)422)

1. The generic name *Schlotheimia* was introduced by Bayle in 1878 in the explanation of his pl. 65, fig. 1, in the combination *Schlotheimia angulata* Schlotheim. No text was published. In the following year a list of the type species of Bayle's genera was published by H. Douvillé (1879 : 91) and in this *A. angulatus* Schlotheim was categorically stated to be the type species of *Schlotheimia* Bayle.

2. The figure given by Bayle in illustration of this species is commonly believed to differ from *Ammonites angulatus* Schlotheim at least subgenerically. It was therefore renamed *S. princeps* by Buckman (1923 : pl. cccxcv, where Bayle's figure is reproduced and labelled "genotype").

3. In accordance with the general practice of the 1920's, Bayle's genus was considered to have been based on the material handled by him, and *S. princeps* has been cited as type species of *Schlotheimia* by Buckman (1923, *loc. cit.*), by Spath (1924 : 197 ; 1925 : 201) and by Lange (1925 : 469). Lange (1924 : 198) proposed the generic name *Scamnoceras* for *Ammonites angulatus* Schlotheim.

4. The position stated in para. 3 could only be legalised by suspension of the Rules. As the Rules stand, *A. angulatus* Schlotheim, 1820, is the type species of *Schlotheimia* by monotypy, and the generic name *Scamnoceras* Lange, 1924, is an objective synonym of *Schlotheimia* Bayle, 1878.

5. The combination *Schlotheimia angulata* had been familiar and had become current in the literature for 45 years before the refinements introduced in the 1920s (see para. 3), and many authors have continued to use it since. So familiar is this combination, and so important the species *A. angulatus* Schlotheim, that a permanent settlement of the question is urgently needed. (See paras. 6 and 7.)

6. The zone of *Ammonites angulatus* was set up by Oppel (1856 : 14) and has been constantly used in stratigraphical geology ever since. It represents an important series of strata which are developed throughout Europe and also elsewhere. From the geologist's point of view a change of the name of this zone cannot be contemplated,

7. The family ANGULATIDAE was founded by Hyatt (1874 : 15) for *A. angulatus* and its allies, and is still in general use under the corrected name SCHLOTHEIMIDAE Spath (1925 : 201). SCHLOTHEIMIDAE having comparatively recently replaced ANGULATIDAE in the literature, it is obviously desirable that the type species of *Schlotheimia* should be *A. angulatus*, which was in fact Hyatt's original type although he made a technical error in basing a family upon a species.

8. There are, however, the following difficulties in recognising the species *A. angulatus* Schlotheim and upholding it as the type species of the genus *Schlotheimia* and thence of the family SCHLOTHEIMIDAE, and as index of the Angulatus Zone. (See paras. 9, 10.)

9. *Ammonites angulatus* Schlotheim (1820 : 70) was at publication a homonym of *A. angulatus* J. Sowerby (1815 : 2 : 9, pl. cvii, fig. 1), an ammonite described by Sowerby as " a rare and curious specimen ", from the Upper Lias and belonging to an entirely different genus (*Dactylioceras* Hyatt, 1867 : p. 95. Type species : *A. annulatus* Sowerby, selected by Buckman, 1911). There never has been and never can be any risk of confusion, for the two genera belong to different families and the homonymy has not hitherto been noticed. The name *Dactylioceras angulatum* (Sowerby) is unknown in the literature. Quenstedt (1846 : 173) considered it a synonym of *D. commune* (J. Sowerby, 1815) and was probably right.

10. *A. angulatus* Schlotheim (1820 : 70) was never figured by its author. Its validity rests on (a) a brief description and localities, and (b) citations of four figures : Scheuchzer, 1718, fig. 50, and Bourget, 1742, figs. 272, 273, 275. Mr. D. T. Donovan points out that all Bourget's three figures are copies of figures in Scheuchzer, and that in particular Bourget's fig. 272 is a copy of Scheuchzer's fig. 50 ; and that therefore only three figures have to be considered. He also points out that Bourget's figs. 272 and 273 are described in their explanations as having keels, a point evidently not noticed by Schlotheim whose description of *A. angulatus* specifies that there is no keel or furrow on the venter. These two figures therefore should be ruled out, leaving Bourget's fig. 275 (copied from Scheuchzer's fig. 24) as the only eligible syntype among the cited figures. But, like the figure of the type species of the genus *Ammonites* Bruguière, this figure is unrecognisable ; it could be a Cretaceous Hoplitid.

11. *A. angulatus* Schlotheim therefore must rest solely on Schlotheim's description, supported by his localities. These are " From the neighbourhood of Coburg, from Heinberg and the Bamberg region ", and the description which reads " Distinguished from other ammonites by its ribbing, which is strongly developed and joined to make an acute angle on the sharp venter, without any ventral line."

12. Schlotheim mentioned that his material consisted of 15 specimens. None of these has since been figured, and the present whereabouts of the collection is unknown. The first author to use Schlotheim's name, however, Quenstedt (1845 : 74, pl. iv, fig. 2), consulted the type material, for he wrote " That this alone is Schlotheim's *angulatus* is proved by the specimens in Schlotheim's collection in Berlin, and the short but exact description in the Petrifactenkunde, p. 71 ". It is therefore proposed that Quenstedt's pl. iv, fig. 2c, 2d should be taken as the basis for the recognition of *Ammonites angulatus* Schlotheim. The locality is Bempflingen, Swabia.

13. The considerations mentioned in paras. 6 and 7 make this a clear case where it is desriable that the Commission should use its plenary powers to set aside an earlier homonym of no use in nomenclature in order to save a later homonym of over a century's standing in the literature and a key name in stratigraphical geology as well as in ammonite systematics. (Cf. *Sphaeroceras* Bayle dealt with in Commission file Z.N. (S.) 405).*

14. I accordingly recommend that the International Commission on Zoological Nomenclature should :—

(1) use its plenary powers :—

(a) to suppress for all purposes the trivial name *angulatus* Sowerby (J.), 1815 (as published in the binominal combination *Ammonites angulatus*) ;

(b) to validate the trivial name *angulatus* Schlotheim, 1820 (as published in the binominal combination *Ammonites angulatus*) ;

(c) to direct that the trivial name *angulatus* Schlotheim, 1820 (as published in the foregoing binominal combination) is to be applied to the species figured by Quenstedt under the above name in 1845 (*Die Cephalopoden*) as figs. 2c and 2d on plate iv of the above work ;

(2) place on the *Official List of Generic Names in Zoology* the generic name *Schlotheimia* Bayle, 1878 (gender of generic name : feminine) (type species, by monotypy : *Ammonites angulatus* Schlotheim, 1820, validated as in (1)(b), and defined as in (1)(c) above) ;

(3) place the generic name *Scamnoceras* Lange, 1924, on the *Official Index of Rejected and Invalid Generic Names in Zoology* ;

(4) place the under-mentioned specific trivial names on the *Official List of Specific Trivial Names in Zoology* :—

(a) *angulatus* Schlotheim, 1820 (as published in the binominal combination *Ammonites angulatus*), as validated and defined in (1) above ;

(b) *princeps* Buckman, 1923 (as published in the binominal combination *Schlotheimia princeps*) ;

(5) place the trivial name *angulatus* Sowerby (J.), 1815 (as published in the binominal combination *Ammonities angulatus*) on the *Official Index of Rejected and Invalid Specific Trivial Names in Zoology.*

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*See pp. 164—166.

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ON THE RELATIVE STATUS OF THE NAMES " ARIETICERAS " SEGUENZA, 1885, AND " SEGUENZICERAS " LEVI, 1896 (CLASS CEPHALOPODA, ORDER AMMONOIDEA) (JURASSIC)

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(Commission's reference Z.N.(S.)486)

1. The name *Arieticeras* was published by Quenstedt (1883 : 44) as follows :

" Typus dieser merkwürdigen Gruppe ist ein so bestimmter, dass man ihn nur durch einen besonderen Namen *Arietes* abgrenzen kann . . . [describes the ' Family '] . . . Waagen erhob sie zu einem Untergeschlecht *Arietites.* Wenn man jedoch ausser dem Wort Arieten noch das Bedürfniss einer besondern Benennung fühlt, so sollte man sie einfach *Arieticeras* nennen, dann wüsste jeder Kenner von vornherein, was man meint."

Hence, if *Arieticeras* is a valid generic name, it is a substitute name for, and therefore objective synonym of, *Arietites* Waagen, 1869.

Quenstedt himself otherwise than in the foregoing passage used the name *Arieticeras* only once (1883 : 113). When describing his *Ammonites nudaries* he remarked : " Trotz dieser Unvollkommenheit scheint es doch eine gute Spezies zu sein, deren Name *Arieticeras nudus* sich wegen der so augenfälligen Nacktheit gleichsam von selbst ergäbe. Nach alter Angewohnheit setze ich jedoch denselben lieber in *Ammonites nudaries* um, worin kurtz die wesentlichsten Kennzeichen angedeutet sind."

2. In 1885, Seguenza (: 255) published a genus *Arieticeras* with four genosyntypes, of which *Ammonites algovianus* Oppel (1862 : 137) was placed first. *A. algovianus* Oppel was selected as the type species by Levi (1896 : 272).

3. In 1896, Levi (: 272) published the generic name *Seguenziceras*, with type species by original designation *Ammonites algovianus* Oppel (1862 : 137), as substitute for *Arieticeras* Seguenza, on the grounds that the latter was preoccupied by *Arieticeras* Quenstedt, 1883.

4. *Seguenziceras* Levi has been accepted by Buckman (1913 : 74 b and pl. lxxiv) and Spath (1924 : 192), who founded on it the family SEGUENZICERATIDAE.

5. *Arieticeras* Seguenza, on the other hand, has continued to find acceptance by, for instance, Hyatt (1900 : 576), Haas (1913, 1947), Pia (1913 : 488 ; 1918 : 319), and Roman (1938 : 112). Dr. Haas (1947 : 79) considers that he had " proved Levi's argument, that *Arieticeras* was preoccupied as a generic name by Quenstedt, to be entirely unfounded."

6. Various obviously invalid arguments have been advanced against the acceptance of *Arieticeras* Quenstedt, 1883, as a validly published name, such as (1) that it has fallen into desuetude which, even if true—in fact the name has never been used since it was first published—would be irrelevant; (2) that it was published in the same year (1885) as *Arieticeras* Seguenza, which is incorrect, as the relevant *Heft* of Quenstedt's book was published in 1883; (3) that it is a synonym of *Arietites* Waagen, 1869, which is irrelevant. There is, however, one argument that has been advanced against the acceptance of *Arieticeras* Quenstedt, the validity of which under the *Règles* is arguable and on which a ruling from the International Commission is now sought. Under this argument Quenstedt ought not to be treated as having validly published the generic name *Arieticeras*, for he clearly had no intention of doing so. All his life Quenstedt stood out against the splitting up of the old comprehensive genus *Ammonites*; all that he did on this occasion was to make a casual and carping remark that " if, however, one felt the need for a special name " for the Arietids, it would be better to call them *Arieticeras* rather than *Arietites* (as Waagen had done). Further it was only casually that on a later page he wrote that the species which he was there discussing could be called " *Arieticeras nudus* " instead of " *Ammonites nudaries*," the latter being the name which he preferred.

7. It is of no consequence whether *Arieticeras* Seguenza, 1885, is retained for the genus concerned or whether the name *Seguenziceras* Levi, 1896, is used in its place. It is of importance, however, that workers should know which is the correct name and this cannot be finally determined until an authoritative ruling is given by the International Commission on the question whether the name *Arieticeras* Quenstedt, 1883, was duly published in accordance with the provisions of Article 25 and therefore whether it renders the later name *Arieticeras* Seguenza, 1885, an invalid junior homonym.

8. The International Commission on Zoological Nomenclature is accordingly asked :—

(1) to give a ruling on the question whether the term *Arieticeras*, published by Quenstedt in 1883, is to be treated as constituting a generic name satisfying the requirements of Article 25;

(2) depending on the ruling given under (1) above, to take the following action :—

(a) *if* Arieticeras *is ruled to have been published* by *Quenstedt in* 1883 *as a generic name satisfying the requirements of Article* 25, to place:

(i) *Seguenziceras* Levi, 1896 (type species, by original designation: *Ammonites algovianus* Oppel, 1862) (gender of generic name: neuter), on the *Official List of Generic Names in Zoology*;

(ii) *Arieticeras* Seguenza, 1885 (type species, by selection by Levi, 1896 : *Ammonites algovianus* Oppel, 1862) (an invalid junior homonym of *Arieticeras* Quenstedt, 1883) on the *Official Index of Rejected and Invalid Generic Names in Zoology ;*

(b) *if it is ruled that the term* Arieticeras, *as published by Quenstedt in* 1883, *is not to be treated as a generic name possessing priority as from that date,* to place :—

(i) *Arieticeras* Seguenza, 1885 (type species, as specified in (a) (ii) above) (gender of generic name : neuter) on the *Official List of Generic Names in Zoology ;*

(ii) the cheironym *Arieticeras* Quenstedt, 1883, on the *Official Index of Rejected and Invalid Generic Names in Zoology ;*

(iii) *Seguenziceras* Levi, 1896 (an objective synonym of *Arieticeras* Seguenza, 1885, of which the same species is the type species) on the *Official Index of Rejected and Invalid Generic Names*) *in Zoology ;*

(3) irrespective of the ruling to be given under (1) above, to place the trivial name *algovianus* Oppel, 1862 (as published in the binominal combination *Ammonites algovianus*) on the *Official List of Specific Trivial Names in Zoology.*

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ON THE RELEVANCE TO THE AVAILABILITY OF A NAME UNDER THE "RÈGLES" OF THE QUESTION WHETHER THE AUTHOR, WHEN PUBLISHING THAT NAME, INTENDED IT TO BE AVAILABLE FOR USE AS A SCIENTIFIC NAME

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(Commission's reference Z.N.(S.)486)

1. The application submitted to the International Commission on Zoological Nomenclature by Dr. W. J. Arkell in regard to the relative status of the generic names *Arieticeras* Seguenza, 1885, and *Seguenziceras* Levi, 1896 (Class Cephalopoda, Order Ammonoidea) deals in itself with a matter of interest only to students of ammonites. But, as Dr. Arkell points out, the foregoing question cannot be answered by the Commission unless at the same time it gives a ruling on the only question of doubt raised in this case, namely whether a name duly published with an indication is or is not to be rejected on the ground that the author when publishing the name in question did not intend his action to be taken as constituting the publication of a new scientific name.

2. At their meeting held in Paris in 1948 the International Commission on Zoological Nomenclature agreed that in future decisions on individual names should, as heretofore, be rendered in *Opinions* but that decisions of a general character affecting the interpretation of the *Règles* should not be published in that series but should be rendered in the series "*Declarations*" (see 1950, *Bull. zool. Nomencl.* **4** : 136–137) ; this proposed change in procedure was reported to, and approved by, the Section on Nomenclature of the Thirteenth International Congress of Zoology (1950, *loc. cit.* **5** : 68) and, with the remaining recommendations of the Section on Nomenclature was approved by the Congress in Plenary Session (1950, *loc. cit.* **5** : 131). In order therefore to deal with the case submitted by Dr. Arkell, it will be necessary for the Commission, first, to render a *Declaration* on the question of principle implicit in Dr. Arkell's application, and, second, in the light of the *Declaration* so rendered, to reach a decision on the relative status of the two generic names which forms the subject on which Dr. Arkell is directly concerned to obtain a ruling.

3. *The twofold issue to be considered :* In considering the question to be dealt with in the required *Declaration*, two issues of a totally distinct kind are involved : (1) Do the *Règles*, as amended by the Thirteenth International Congress of Zoology, provide that a name, which is (a) duly published and (b) is on that occasion accompanied by a description, definition or indication, is to be rejected if it can be shown that the author who published that name did so for some purpose other than for it to be used as a scientific name ? (2) Whatever may be the answer to the question posed in (1) above, is the position under the *Règles* disclosed by the answer given to that question a desirable one ? There is thus a question of fact to be answered and a question of policy to be determined.

4. *The question of fact :* Article 25 provides that the nomenclatorially available name for an animal is the first name to have been published for that animal provided that certain conditions are satisfied. Where those conditions are satisfied, a name is an available name and possesses rights under the Law of Priority ; where those conditions are not satisfied, the name in question is an invalid name and possesses no rights under the Law of Priority. The conditions which determine the availability of every scientific name in zoological nomenclature are specified in Provisos (a) and (b) to Article 25, while in Proviso (c) certain more stringent provisions are added that are applicable only to names published after 31st December 1930. Proviso (a) prescribes that a name must be duly published (" divulgué dans une publication ") ; it provides also that a name must, when first published, be accompanied by an indication, definition or description. Proviso (b) provides that the work in which the name appears must have been one in which the author concerned consistently applied " les principes de la nomenclature binominale " (formerly " nomenclature binaire ") (see 1950, *Bull. zool. Nomencl.* **4** : 63–66, 175). Proviso (c) provides that a name published after 31st December 1930, must, in addition to satisfying the requirements of Provisos (a) and (b), be accompanied by certain specified kinds of information and, if a generic name, must be accompanied with a designation (or indication) of the type species of the genus so named ; this Proviso was somewhat liberalised by the Paris Congress for the purpose of eliminating undesirably ritualistic provisions but its general content remained unchanged. In none of these Provisos is there any provision invalidating an otherwise available name on the ground that the author by whom it was published did not intend it to be used as a scientific name, notwithstanding the fact that he had published it. On the question of fact there can therefore be no room for argument.

5. *The question of policy :* Having seen that the *Règles* in their present form contain no provision invalidating an otherwise available name where it can be shown that the author who pubished that name nevertheless did not intend that it should be used as a scientific name, we have now to consider whether it is desirable that in this respect the *Règles* should be amended by the next International Congress of Zoology in such a way as to invalidate a name published in the foregoing circumstances. I am bound to say that, in my view, such a provision would be unsound in principle and would in practice lead to unnecessary time-consuming bibliographical investigations and to confusion and instability in zoological nomenclature. I consider that such a provision would be wrong in principle, for it would introduce into the *Règles* an element which should be wholly excluded from any code of law, namely a criterion of a subjective character which by its nature would be incapable of providing an unchallengeable interpretation in relation to any given name. At Paris in 1948 the Commission and the Congress were at pains—and rightly—to eliminate from the *Règles* provisions involving subjective judgments on the part of the reader, seeking everywhere to secure that the provisions in the *Règles* should be such as called only for the ascertaining of objective nomenclatorial facts. To reverse this principle in the present case would, therefore, in my view, be a highly retrograde and undesirable step. Such a course, it seems to me, would not only be wrong in principle, but would constitute a serious impediment to the ordinary work of the systematic zoologist, for in the case of every name that he used, he would first have, as at present, to satisfy himself that it complied with the requirements of the Provisos to Article 25, and, having done so, to satisfy himself that the author by whom the name had been published had intended the name to be at least available for use as a scientific name. Further, such a provision would add an intolerable burden to the zoologist when seeking to make sure whether a generic name that he proposed to use was not preoccupied elsewhere in the Animal Kingdom, for he would need to do much more than to ascertain (as at present) by reference to Zoological *Nomenclators* or otherwise whether the word in question had previously been published as a generic name in conditions which satisfy the provisions of Article 25 ; he would need also to ascertain whether if the word in question had previously been so published, it had been seriously published or had been published for some purpose—Dr. Arkell refers to Quenstedt's carping attitude towards Waagen—other than a desire to publish a new scientific name. In an exceptional case such as that submitted by Dr. Arkell, where both the generic names related to genera in the same Order (Ammonoidea), no great inconvenience would be caused to the worker concerned, but that case is exceptional for, in most cases it would be necessary for the conscientious zoologist to examine a work belonging to a group with which he was wholly unfamiliar in order to determine whether the author of that work had acted seriously or not in publishing the name in question. Finally, a provision of the kind under discussion could not fail to lead to confusion, for any provision depending for its interpretation upon a subjective judgment to be formed by the reader must by its nature lead to different results in the hands of different readers. I conclude therefore that from every point of view the introduction into the *Règles* of a provision invalidating a name which, though otherwise available, could be held to have been published by its author for some purpose other than use as a scientific name, would be open to the strongest objection.

6. I recognise that here and there in the old literature there may be found examples, of which the name *Arieticeras* as published by Quenstedt in 1883 certainly appears to be one, where an author irresponsibly published a name or names for some purpose other than for use as scientific names, but such cases are, no doubt, extremely rare—I know of only one such case in my own group (Lepidoptera). It does not follow however that, where a name is irresponsibly published in this way, its publication would do any harm to nomenclature—in the case of *Arieticeras* Quenstedt, Dr. Arkell has made it clear that it is a matter of indifference whether the name in question is treated as being available or not. On the rare occasion where the fact that such a name was an available name would lead to greater confusion that uniformity, it would also be within the power of the International Commission on Zoological Nomenclature to take the necessary remedial action under its plenary powers.

PROPOSED VALIDATION OF THE NAME "ARISPHINCTES" BUCKMAN, 1924, BY THE SUPPRESSION, UNDER THE PLENARY POWERS, OF THE NAME "TOXOSPHINCTES" BUCKMAN, 1923 (CLASS CEPHALOPODA ORDER AMMONOIDEA) (JURASSIC)

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(Commission's reference Z.N.(S.)389)

1. The present application is concerned with the relative precedence to be accorded to the generic names *Arisphinctes* Buckman, 1924, and *Toxosphinctes* Buckman, 1923 (Class Cephalopoda, Order Ammonoidea) (Jurassic). This case was fully discussed by me in 1939 in "A Monograph on the Ammonites of the English Corallian Beds" (Palaeont. Society) (Part 5 : lv-lvii). The relevant facts are as follows.

2. S. Buckman published the name *Arisphinctes* (1924, *Type Ammonites* **5** : 33, pls. dxi, dxii) for a genus of large Perisphinctids of Upper Oxfordian date, characterised by ribbing that gradually modifies on the outer whorl and fades on the venter and by sutures with a long suspensive lobe. Buckman designated *Arisphinctes ariprepes* Buckman, 1924 (*loc. cit. :* pl. dxi) as the type species of this genus. He also figured the holotype of this species which was a complete and well preserved specimen.

3. *Arisphinctes* Buckman, 1924, is now regarded (Arkell, 1939 : lvi-lvii) as a subgenus of the genus *Perisphinctes* Waagen, 1869. Further, the nominal species *Arisphinctes ariprepes* Buckman, 1924, is now identified with the nominal species *Perisphinctes cotovui* Simionescu, 1907 (: 151, pl. vii, fig. 1). Accordingly the trivial name *ariprepes* Buckman is now treated as a subjective junior synonym of the trivial name *cotovui* Simionescu.

4. In 1923 (the year before that in which the name *Arisphinctes* was published), Buckman had published another generic name *Toxosphinctes* (*Type Ammonites* **5** : pl. cdxlvii) ; the genus so named was based upon a single specimen, the re-discovered holotype of *Ammonites pickeringius* Young and Bird, 1822 (: 251, pl. xii, fig. 9), which is therefore the type species of *Toxosphinctes.* The holotype of this species, which was refigured by Buckman, shows characters quite different from those of *Arisphinctes ;* it has fine sharp ribbing all over, not modified, not faded on the venter, and suture with short suspensive lobe. Buckman evidently did not suspect any close affinity with *Arisphinctes.* The species which are the respective type species of these two genera came from different parts of England but from the same zone.

5. When the Corallian ammonites came to be monographed and all available material was compared, it was discovered that the holotype of the type species of *Toxosphinctes* was an incomplete specimen, probably representing only the inner and middle whorls of a large species which later acquires the characters of *Arisphinctes. Perisphinctes pickeringius* (Young and Bird, 1822) as interpreted in the monograph cited above, is closely allied to *Perisphinctes* (*Arisphinctes*) *cotovui* Simionescu, 1907, the type species of *Arisphinctes*.

6. Since the specimen upon which Buckman founded the genus *Toxosphinctes* is incomplete and there are several subgenera with similar inner and middle whorls which cannot be distinguished from one another, except by the outer whorls, it can never be proved that this specimen belongs to a species having the same characteristics as *Arisphinctes*. It will always remain an uncertain factor, liable to re-interpretation by subsequent authors.

7. On the other hand, although the name *Arisphinctes* was published a few months later than *Toxosphinctes*, the genus *Arisphinctes* was founded upon a complete specimen and in consequence the characters of the type species of this genus can never be in doubt. In my monograph, therefore, I discarded (: lvi *et seq.*) the name *Toxosphinctes* and used the name *Arisphinctes*. In the twelve years which have since elapsed, no published dissent from this procedure has come to my notice, nor has any dissent been received by me in correspondence.

8. Accordingly, in order to secure that the currently used generic name *Arisphinctes* shall be secure from possible supersession merely on grounds of priority by the *nomen dubium Toxosphinctes* (which never to my knowledge has been used in print since it was first published in 1923) and to prevent the confusion and incovenience which an unnecessary change of this kind would involve, I ask the International Commission on Zoological Nomenclature to use its plenary powers to stabilise the generic nomenclature of this group and, having done so, to place the name *Arisphinctes* on the *Official List*. The specific proposals which I therefore submit are that the Commission should :—

(1) use its plenary powers to suppress the generic name *Toxosphinctes* Buckman, 1923, for the purposes of the Law of Priority, but not for those of the Law of Homonymy ;

(2) place the generic name *Arisphinctes* Buckman, 1924 (type species, by original designation : *Arisphinctes ariprepes* Buckman, 1924) (gender of generic name : masculine) on the *Official List of Generic Names in Zoology ;*

(3) place the trivial name *cotovui* Simionescu, 1907 (as published in the binominal combination *Perisphinctes cotovui*) on the *Official List of Specific Trivial Names in Zoology ;*

(4) place the generic name *Toxosphinctes* Buckman, 1923 (as proposed, under (1) above, to be suppressed under the plenary powers) on the *Official Index of Rejected and Invalid Generic Names in Zoology.*

References :

Arkell, W. J., 1935-1948. *A Monograph on the Ammonites of the English Corallian Beds* (Palaeontograph. Soc.).

Buckman, S., 1919-1930. *Type Ammonites*, vols. **3-7** (Thame).

Simionescu, I., 1907. Studii geologice si pal. din Dobrogea, **1**, Fauna cefalopodelor jurasice dela Harsova (Dobrogea). *Public. Fond. Adamachi Acad. Romana* **4** (21) : 151, pl. vii, fig. 1 (lectotype selected by Arkell, 1939, *loc. cit.* : 126).

Young, G. and Bird, J , 1822. *A Geological Survey of the Yorkshire Coast*, 1st Edition. (Whitby).

PROPOSED USE OF THE PLENARY POWERS TO DESIGNATE THE TYPE SPECIES OF THE GENUS "ARNIOCERAS" HYATT, 1867 (CLASS CEPHALOPODA, ORDER AMMONOIDEA)

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(Commission's reference Z.N.(S.)509)

1. The present application for the use by the International Commission on Zoological Nomenclature of its plenary powers to designate, as the type species of the genus *Arnioceras* Hyatt, 1867 (*Bull. Mus. comp. Zool.* **1** : 73) (Class Cephalopoda, Order Ammonoidea), a species, other than that which would be the type species under the *Règles*, is submitted under the procedure prescribed by the Thirteenth International Congress of Zoology, Paris, July 1948 (see 1950, *Bull. zool. Nomencl.* **4** : 158-159) as that to be followed in the case of genera based upon misidentified type species.

2. The facts in this case are as follows : The generic name *Arnioceras* was first published by Hyatt in 1867, and has been in constant use ever since. No type species was designated or indicated at the time of publication ; seven nominal species were cited as belonging to the genus so named. These species were : (1) *Arnioceras cuneiforme* Hyatt (a species then named—on page 73—for the first time) ; (2) *Arnioceras incipiens* Hyatt (also then a new nominal species but which later Hyatt (1889 : 170) identified with the earlier nominal species *Ammonites falcaries* Quenstedt. 1858 : 70) ; (3) *Arnioceras semicostatum* (Young & Bird, 1828 : 257, 259) ; (4) *Arnioceras kridiforme* Hyatt (a new nominal species based upon the species identified by d'Orbigny in 1844 as *Ammonites kridion* Hehl *in* Zieten [1830]) ; (5) *Arnioceras tardecrescens* (Hauer, 1856 : 20) ; (6) *Arnioceras ceratitoides* (Quenstedt, 1847 : 239) ; (7) *Arnioceras falcaries* (Quenstedt, 1858 : 70). In accordance with his normal practice, Hyatt attributed all but one of these names to himself, because he placed the species concerned in a genus different from that in which they had originally been described. The one exception made by Hyatt was in regard to the sixth of the nominal species referred by him to this genus ; this species he cited as "*A. ceratitoides* L. Agassiz." The probable explanation is provided by Hyatt's statement (1867 : 71) that Agassiz had selected five genera which Hyatt "referred to his authority," and that Agassiz was responsible for suggesting the work to Hyatt and for proposing to classify the ammonites dealt with into families and genera. Presumably *ceratitoides* was a specific trivial name also suggested by Agassiz. It had not however been published by Agassiz at the time that Hyatt's paper appeared.

3. The first author to select a type species for the genus *Arnioceras* was Buckman (S.), who in 1911 (**1** : vi) wrote : "The type [species] is definitely indicated by the generic name and by the species credited to Agassiz *Arnioceras* (*ἀρνειός*, a ram) indicates a type with trivial name *ceras* or similar." Buckman drew attention also to the fact that in 1889 (: 169) Hyatt identified *Ammonites ceras* Giebel & Hauer, with *Ammonites ceras* Agassiz. "On this evidence," Buckman thought it desirable to select *Am. ceras* as figured by Hyatt in 1889 (*Gen. Ariet.* : pl. ii, fig. 20) as the type species of *Arnioceras* Hyatt ; Buckman wrote : "Result : Genus *Arnioceras* Agassiz-Hyatt, 1867. Type *A. ceratitoides* Agassiz, of which *A. ceras* Agassiz (Hyatt, Gen. Arietidae, ii, 20) is genolectotype." It should be noted that in 1867 (: 74) Hyatt had placed *A. ceras* Giebel, 1852 (: 757) in the synonymy of "*Arnioceras ceratitoides* Agassiz."

4. The first name placed by Hyatt (1867 : 74) in the synonymy of "*A. ceratitoides* Agassiz" was *Ammonites ceratitoides* Quenstedt, 1847 (: 239, pl. xix, fig. 13—not fig. 3, as erroneously stated by Hyatt). Quenstedt's publication of this name in 1847 was the first occasion on which it was used for this ammonite species. Thus, under the decision of the Paris (1948) Congress defining the species which are to be regarded as having been originally included in any given genus (1950, *Bull. zool. Nomencl.* **4** : 179-180, Buckman's action in 1911 constitutes a valid selection of *Ammonites ceratitoides* Quenstedt, 1847, as the type species of *Arnioceras* Hyatt, 1867.

5. *Ammonites ceratitoides* Quenstedt, the type specimen of which is lost (Jaworski, 1931 : 117), is a Triassic ammonite, entirely different morphologically and in age from the Liassic group for which the generic name *Arnioceras* Hyatt has always been used. To transfer the name *Arnioceras* to Quenstedt's species would produce chaotic confusion.

6. *Ammonites ceras* Agassiz, as identified by Hyatt in 1889 (: 169, pl. ii, fig. 20), which is the species which Buckman intended to make the "genolectotype" of *Arnioceras* Hyatt, was merely Hyatt's attempted interpretation of *Ammonites ceras* Giebel, 1852 (: 757), a species, the identity of which is uncertain. It is possible that, if his type specimens were to be found and re-studied, the species identified by Hyatt with *Ammonites ceras* Giebel might be found to be different and might need to be given a new name. In any case, under the decision of the Paris Congress to which reference has already been made, it would not have been possible to accept, as the type species of *Arnioceras*, Hyatt's interpretation of *A. ceras* Giebel, for, even if it had been permissible under the *Règles* to treat "*A. ceras*" as the type species of this genus, the species concerned would have to be the true *Ammonites ceras* of Giebel, which (as already explained) is an unknown quantity.

7. The genus *Arnioceras* Hyatt is thus a genus based upon a misidentified type species and in consequence the International Commission on Zoological Nomenclature is bound by the instructions given to it by the Congress to use its plenary powers to designate as the type species of this genus either (a) the species intended by the original author when citing the name of the erroneously determined species, or (b), if the identity of that species is doubtful, a species in harmony with current nomenclatorial usage, except where (as is not the case in the present instance) such action would itself lead to confusion. We have seen that the identity of the species which Buckman intended to refer to, when selecting the type species of *Arnioceras* Hyatt is doubtful; accordingly, under the foregoing decision, it is necessary under the plenary powers to select, as the type species of this genus, a species in harmony with current practice. It is not necessary for this purpose that the species to be so selected should be one of the species originally included in the genus, though it is clearly preferable that, if practicable, such a species should be selected.

8. I have accordingly examined from the foregoing point of view each of the seven nominal species originally included by Hyatt in the genus *Arnioceras*. This examination indicates that *Arnioceras cuneiforme* Hyatt, 1867, is nearest to the figure that has hitherto been regarded as representing the type species of this genus, and is the freest from objections of various kinds. I accordingly recommend that it should now be designated as the type species of *Arniococeras* Hyatt.

9. The proposal which I now submit is therefore that the International Commission on Zoological Nomenclature should :—

(1) under the procedure prescribed by the Thirteenth International Congress of Zoology for determining the type species of a genus based upon a misidentified type species, use its plenary powers (a) to set aside all selections of type species for the genus *Arnioceras* Hyatt, 1867, made prior to the proposed decision, and (b), having done so, to designate *Arnioceras cuneiforme* Hyatt, 1867, to be the type species of the foregoing genus ;

(2) place the generic name *Arnioceras* Hyatt, 1867 (type species, as proposed in (1) above to be designated under the plenary powers : *Arnioceras cuneiforme* Hyatt, 1867) (gender of generic name : neuter) on the *Official List of Generic Names in Zoology ;*

(3) place the trivial name *cuneiforme* Hyatt, 1867 (as published in the binominal combination *Arnioceras cuneiforme*) on the *Official List of Specific Trivial Names in Zoology.*

References :

Buckman, S. S., 1911. " Yorkshire Type Ammonites," **1.**

Giebel, C. G., 1852. " Fauna der Vorwelt." (Leipzig).

Hyatt, A., 1867. " Fossil Cephalopods in the Museum of Comparative Zoology." *Bull. Mus. comp. Zool.* **1** (No. 5) : 71-74.

————1889. " Genesis of the Arietidae." *Smithson. Publ.* **673** (Washington).

Jaworski, E., 1931. " Ueber *Arnioceras geometricum* Oppel, 1856 und verwandte Spezies ; nebst einen Anhang über *Ammonites natrix* v. Schlotheim. 1820." *Neues Jahrb. Min. Geol. Pal.* **65B** (Beil.-Bd.) : 84.

Oppel A. 1856-1858. " Die Juraformation " (Stuttgart) (repaged reprint from *Württemb. naturw. Jahreshefte*).

d'Orbigny A. 1842-1851. " Paléontologie française, Terr. jurass., Mollusques " (Paris).

Spath, L. F., 1924. " The ammonites of the Blue Lias." *Proc. geol. Assoc.* **35** : 186.

PROPOSED USE OF THE PLENARY POWERS TO DESIGNATE THE TYPE SPECIES OF "LIPAROCERAS" HYATT, 1867, A GENUS BASED UPON A MISIDENTIFIED TYPE SPECIES (CLASS CEPHALOPODA, ORDER AMMONOIDEA) (JURASSIC)

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(Commission's reference Z.N.(S.)507)

1. The present application for the use by the International Commission on Zoological Nomenclature of its plenary powers to designate, as the type species of *Liparoceras* Hyatt, 1867 (*Bull. Mus. comp. Zool.* **1** (No. 5) : 83), a species, other than that which would be type species under the *Règles*, is submitted under the procedure prescribed by the Thirteenth International Congress of Zoology, Paris, July, 1948 (see 1950, *Bull. zool. Nomencl.* **4** : 158–159) as that to be followed in the case of genera based upon misidentified type species. The facts of the case are as set forth below.

2. Hyatt (1867 : 83, 84) established the genus *Liparoceras*, in which he placed three nominal species, but for which he did not designate or indicate a type species.

3. One of the originally included species was cited as " *Liparoceras henleyi* Hyatt," in the synonymy of which Hyatt cited the following synonyms :—

Ammonites henleyi Sowerby.
Nautilus striatus Reinecke.
Ammonites striatus Zieten.
Ammonites henleyi Bronn.

4. Buckman (1911 : iii) selected as the type species of *Liparoceras* Hyatt what he referred to as " *Ammonites henleyi* Hyatt, *pars* = *A. striatus* Bronn, 1838, pl. xxiii, fig. 7." Buckman explained that what Bronn, copying Zieten (1830) : pl. v, fig. 6), called " *A. striatus* " was the same species as that cited by Hyatt as " *Ammonites henleyi* Bronn." In his later editions, Bronn (1851, ed. 3 : 373) referred figure 7 on his plate xxiii to *Ammonites henleyi* Sowerby.

5. Spath (1938 : 43) accepted Buckman's type selection for *Liparoceras*. He pointed out however, that the species so selected was still without a valid name. There is no such specific name as *Ammonites striatus* Bronn, 1838, or *Ammonites striatus* Zieten, 1830, both those authors having misidentified *Nautilus striatus* Reinecke, 1818 (which, in any case, is an invalid junior homonym of *Nautilus striatus* Sowerby (J.), 1817). Similarly, there is no such specific name as *Ammonites henleyi* Hyatt, 1867, Hyatt's use of the trivial name *henleyi* being based upon a misidentification of *Ammonites henleyi* Sowerby (J.), 1817. Spath accordingly published the name *Liparoceras bronni*, basing this nominal species upon a holotype which he selected from the British Museum collection. As Spath did not base *Liparoceras bronni* upon Bronn's figure of his " *Ammonites striatus* "—a course which would have made *Liparoceras bronni* Spath objectively identical with the species figured by Bronn.—the trivial name *bronni* Spath is only subjectively applicable to Hyatt's species. There is however no doubt as to the identity of the species to which Spath's trivial name *bronni* is applicable ; that name is therefore the oldest available name for the species which Hyatt included in the genus *Liparoceras* under the misidentified name *henleyi* and which Buckman later selected as the type species of *Liparoceras.*

6. This is a clear case of a nominal genus based upon a misidentified type species, where the misidentification has been recognised by specialists and where the acceptance as the type species (of *Liparoceras*) of the species to which the name (*Nautilus striatus* Reinecke) cited by the author of the genus (Hyatt) correctly applies would lead to an undesirable change in current nomenclatorial practice. Accordingly, I ask the International Commission on Zoological Nomenclature :—

(1) under the procedure prescribed by the Thirteenth International Congress of Zoology for determining the type species of a genus based upon a misidentified type species, to use its plenary powers (*a*) to set aside all selections of type species for the genus *Liparoceras* Hyatt, 1867, made prior to the proposed decision, and (*b*), having done so, to designate *Liparoceras bronni* Spath, 1838, to be the type species of the foregoing genus ;

(2) to place the generic name *Liparoceras* Hyatt, 1867 (type species, as proposed in (1) above to be designated under the plenary powers : *Liparoceras bronni* Spath, 1938) on the *Official List of Generic Names in Zoology* (gender of generic name : neuter) ;

(3) to place the trivial name *bronni* Spath, 1938 (as published in the binominal combination *Liparoceras bronni*) on the *Official List of Specific Trivial Names in Zoology.*

References :

Bronn, H. G., 1834–38. *Lethea Geognostica.* Stuttgart.
————, 1851, *ibid.* (ed. 3).

Buckman, S. S., 1911. *Yorkshire Type Ammonites,* **1**.

Hyatt, A., 1867. "Fossil Cephalopods in the Museum of Comparative Zoology." *Bull. Mus. comp. Zool.* **1** (No. 5) : 83.

Reinecke, J. C. M., 1818. *Maris protogaei Nautilos et Argonautas . . . descripsit . . . J. C. M. Reinecke.*

Sowerby, J., 1817. *Mineral Conchology,* **2** : 161 (*Ammonites henleyi*), 183 (*Nautilus striatus*).

Spath, L. F., 1938. "*Catalogue of the Ammonites of the Liassic family Liparoceratidae.* Brit. Mus. (Nat. Hist.), London.

Zieten, C. H. von. 1830, *Die Versteinerungen Württembergs* : pl. v, fig. 6.

PROPOSED USE OF THE PLENARY POWERS TO DESIGNATE THE TYPE SPECIES OF "NORMANNITES" MUNIER-CHALMAS, 1892, A GENUS BASED UPON A MISIDENTIFIED TYPE SPECIES (CLASS CEPHALOPODA, ORDER AMMONOIDEA) (JURASSIC)

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(Commission's reference Z.N.(S.)508)

1. The present application for the use by the International Commission on Zoological Nomenclature of its plenary powers to designate, as the type species of *Normannites* Munier-Chalmas, 1892 (*Bull. Soc. géol. France* (3) **20** C. R. : clxxii) (Class Cephalopoda, Order Ammonoidea), a species, other than that which would be the type species under the *Règles*, is submitted under the procedure prescribed by the Thirteenth International Congress of Zoology, Paris, July 1948 (*see* 1950, *Bull. zool Nomencl.* **4** : 158–159) as that to be followed in the case of genera based upon misidentified type species.

2. The facts of this case are simple. Munier-Chalmas, when first publishing the generic name *Normannites*, stated that the type species of this genus was *Ammonites braikenridgei* d'Orbigny. The species so referred to is that figured by d'Orbigny in 1846 (: 400, pl. 135, figs. 3, 4).

3. The difficulty in this case arises from the fact that d'Orbigny never published the name *Ammonites braikenridgei* as a new name, his use of that binominal combination being due to his having misidentified the species which he figured on his plate 135 (figs. 3, 4) with the previously described species *Ammonites braikenridgei* Sowerby, 1817 (*Min. Conch.* **2** : 187). The genus *Normannites* Munier-Chalmas is thus a genus based upon a misidentified type species, that type species having been designated by the original author at the time of the first publication of the generic name.

4. Subsequent authors have followed Munier-Chalmas in treating the species figured by d'Orbigny (*i.e.*, the species misidentified by d'Orbigny as *Ammonites braikenridgei* Sowerby) as the type species of *Normannites* and not the true *Ammonites braikenridgei*. The species figured by d'Orbigny remained without a name until Buckman, in 1927, gave it the name *Normannites orbignyi*.

5. It is important from the point of view of securing stability in nomenclature that current nomenclatorial practice in this matter should be given a firm legal foundation. I accordingly submit the present application under the procedure prescribed by the International Congress of Zoology for adoption in cases such as the present. The application now submitted is that the International Commission on Zoological Nomenclature should :

(1) under the procedure prescribed by the Thirteenth International Congress of Zoology for determining the type species of a genus based upon a misidentified type species, use its plenary powers (*a*) to set aside all selections of type species for the genus *Normannites* Munier-Chalmas, 1892, made prior to the proposed decision, and (*b*), having done so, to designate *Normannites orbignyi* Buckman, 1927, to be the type species of the foregoing genus ;

(2) place the generic name *Normannites* Munier-Chalmas, 1892, (type species, as proposed in (1) above to be designated under the plenary powers : *Normannites orbignyi* Buckman, 1927) (gender of generic name : masculine) on the *Official List of Generic Names in Zoology ;*

(3) place the trivial name *orbignyi* Buckman, 1927 (as published in the binominal combination *Normannites orbignyi*) on the *Official List of Specific Trivial Names in Zoology.*

References :

Buckman, S. S., 1927. *Type Ammonites* **7** : pl. dccxxxiv.

Orbigny, A. C.d', 1846. *Pal. franç.*, Terr. jurass. : 400, pl. 135, figs. 3, 4.

Munier-Chalmas, E. C. P. A., 1892. "Sur la possibilité d'admettre un dimorphisme sexuel chez les Ammonitidés." *Bull. Soc. géol. France* (3) **20** C. R. : clxxii.

Sowerby, J., 1817. *Mineral Conchology* **2** : 187.

PROPOSED ADDITION TO THE "OFFICIAL LIST OF GENERIC NAMES IN ZOOLOGY" OF THE NAMES OF TWENTY-ONE GENERA OF JURASSIC AMMONITES (CLASS CEPHALOPODA, ORDER AMMONOIDEA) AND MATTERS INCIDENTAL THERETO

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1. I submit herewith to the International Commission on Zoological Nomenclature a list of the names of twenty-one genera of Jurassic ammonites which I recommend should be placed on the *Official List of Generic Names in Zoology*. Each of these names is an available name in the sense that it is not a homonym of any generic name previously published as the valid name of a genus in the Animal Kingdom. The species cited in the list now submitted as the type species of each of the genera in question is believed to have been correctly so determined in accordance with the provisions of Article 30 of the *Règles*, being the type species either by original designation (Rule (*a*)), or by monotypy (Rule (*c*)), or by subsequent selection (Rule (*g*)).

2. The twenty-one names now submitted have been selected because in the past there have been differences of opinion among specialists in regard either to the species which should be accepted as the type species of the genera concerned or to other questions relating to these names. In view of these inconsistencies in the literature, it is very desirable that the use of these names in the sense required by the *Règles* should be stabilised as soon as possible by these names being placed upon the *Official List* with their correct type species. The nature of the inconsistencies referred to above and the grounds on which it is considered that the solutions now recommended for recognition in the *Official List* are in strict accordance with the provisions of the *Règles*, is explained (so far as is necessary) in the series of notes given in the Appendix to the present application.

3. In seven cases, points calling for some special action arise. These cases are set out below :—

(1) *Cadoceras* Fischer, 1882 : As explained in the Appendix, no valid type selection has ever been made for this genus. I accordingly now select, as its type species, *Ammonites sublaevis* Sowerby (J.), 1814 (=*Cadoceras sublaeve* (Sowerby, 1814)).

(2) *Garantiana* Mascke, 1907 : Prior to the valid publication of this name by Mascke in 1907, it had been published as a *nomen nudum* by Hyatt in 1900 (*in* Eastman's Zittel, *Textb. Paleont.* **1** : 583). This invalid earlier use of the name *Garantiana* appears in Neave's *Nomenclator Zoologicus* (**2** : 440), where its invalid status is correctly noted ; unfortunately, however, Mascke's valid use of this name is not noted in that work. It is desirable, therefore, that, in order to obviate

the risk of future misunderstandings, the nomenclatorially non-existent name *Garantiana* Hyatt, 1900, should now be finally disposed of by being placed on the *Official Index of Rejected and Invalid Generic Names in Zoology*. At the same time the uncalled-for emendation *Garantia* Rollier, 1909 (*Arch. Sci. phys. nat. Genève* (4) **28** : 613, 615) should also be placed on the *Official Index*. The type species of the genus *Garantiana* Mascke has been used as a zonal index fossil and is therefore of special importance in stratigraphy.

(3) *Lamberticeras* Buckman (S.), 1920 : The name *Lamberticeras* was first published as a *nomen nudum* by Kilian in 1910 (*Lethaea geognostica*. **3** (No. 1) (Lief. 2) : 194). Possessing no status in zoological nomenclature, the name *Lamberticeras* Kilian, 1910, does not invalidate the later name *Lamberticeras* Buckman, 1920. On erroneous information that the opposite was the case Buckman (1920, *Type Ammonites* **3** : 17) renamed his genus *Bourkelamberticeras*. Both the *nomen nudum Lamberticeras* Kilian, 1910, and the junior objective synonym *Bourkelamberticeras* Buckman (S.), 1920, should now be relegated to the *Official Index of Rejected and Invalid Generic Names in Zoology*.

(4) *Oecotraustes* Waagen, 1869 : When Waagen first published this name, he used two different spellings, namely *Oecotraustes* and *Oekotraustes*. Most subsequent authors have adopted the first of these spellings, which is clearly the more correct. In order to promote uniformity in nomenclatorial practice, it is desirable that the International Commission on Zoological Nomenclature should rule in favour of this spelling, at the same time placing the spelling *Oekotraustes* on the *Official Index of Rejected and Invalid Generic Names in Zoology*.

(5) *Pleuroceras* Hyatt (A.), 1867 : In the mistaken belief that this name was unavailable by reason of generic homonymy, Buckman (S.), in 1898 (*Quart. J. geol. Soc.* **54** : 453) replaced it by the name *Paltopleuroceras*, which is therefore an invalid objective synonym. This error was pointed out by Jaworski, 1931 (*Neues Jahrb. für. Min. Beil.-Band* **65** : 86). The name *Paltopleuroceras* has been widely used but not to an extent which would, in my view, justify asking the International Commission to validate it under its plenary powers. When the name *Pleuroceras* Buckman is placed on the *Official List*, the name *Paltopleuroceras* should therefore be placed on the *Official Index* of *Rejected and Invalid Generic Names in Zoology*. The type species of the nominal genus *Pleuroceras* Buckman has been used as a zonal index fossil and is therefore of special importance in stratigraphy.

(6) *Quenstedtoceras* Hyatt, 1877 : When this name was first published, it appeared in the spelling "*Quenstedioceras*." The name of the geologist after whom this genus was named was however, Quenstedt. It is evident, therefore, that the original spelling (quoted above) was due to a printers' error or to a slip of the pen on the part of Hyatt in 1877. The original error was first detected by Pompeckj in 1899

(*Cape Flora* : 96); in the following year it was silently corrected to "*Quenstedtoceras*" by Hyatt himself (1900, in Eastman's Zittel, *Textb. Paleont*, **1** : 580). Since then the corrected spelling has been generally used in the English-speaking countries (See Arkell, 1939 (*Quart. J. Geol. Soc.* **95** : 151). In Continental literature, a third spelling, "*Quenstedticeras*" is generally used, this having been first introduced by Teisseyre in 1889 (*Neues Jahrb. für Min.* Beil.-Band **6** : 148). This was however an unwarranted emendation of Hyatt's name, the termination "–oceras", which is open to no objection, having always been used for this name. The error represented by the original spelling clearly falls within the classes of error specified in Article 19 of the *Règles*, and it is accordingly recommended that the International Commission on Zoological Nomenclature, when placing this generic name on the *Official List*, should expressly emend the spelling to *Quenstedtoceras*. It would be desirable that at the same time the erroneous spelling *Quenstedioceras* and also the erroneous spelling *Quenstedticeras* should be placed on the *Official Index of Rejected and Invalid Generic Names in Zoology*.

(7) *Stephanoceras* Waagen, 1869 : Buckman (S.) in 1898 (*Quart. J. geol. Soc.* **54** : 454) changed this name to *Stepheoceras*. On the mistaken assumption that it was invalidated by *Stephanoceros* Ehrenberg, 1832 (*Abh. preuss. Akad. Wiss.* **1831** : 125) (Rotifera) and, as the more recent of the two names, was accordingly invalid. Both the name *Stephanoceras* Waagen and its invalid substitute *Stepheoceras* Buckman are often misused in Continental literature. *See* Spath, 1944 (Geol. Mag. **81** : 230). The name *Stepheoceras* Buckman, 1898, being an invalid junior objective synonym of *Stephanoceras* Waagen, 1869, should be placed on the *Official Index of Rejected and Invalid Generic Names in Zoology* at the same time that Waagen's *Stephanoceras* is placed on the *Official List*. The type species of the genus *Stephanoceras* Waagen has been used as a zonal index fossil and is therefore of special importance in stratigraphy.

4. The following is the list of generic names which it is recommended should now be placed on the *Official List of Generic Names in Zoology* :—

Names recommended for addition to the "Official List of Generic Names in Zoology"

Agassiceras Hyatt, 1875, *Proc. Boston Soc. nat. Hist.* **17** : 225 (type species, by selection by Buckman (S.) 1894 (*Geol. Mag.* (4) **1** : 361) : *Ammonites scipionianus* d'Orbigny, 1844, *Pal. française*, Terr. jurass. : 207, pl. 51, figs. 7, 8) (gender of generic name : neuter).

Angulaticeras Quenstedt, 1883, *Ammoniten schwäb. Jura* : 26 (type species, by selection by Lange, 1924 (*Jahrb. preuss. geol. Landesanst.* **44** : 176) : *Ammonites lacunatus* Buckman (J.), 1844 (*Geol. Cheltenham* : 105) (gender of generic name ; neuter).

Asteroceras Hyatt, 1866, *Bull. Mus. comp. Zool.* **3** : 79, 80 (type species, by selection by Buckman (S.), 1911 (*Type Ammonites* **1** : v) : *Ammonites stellaris* Sowerby (J.), 1815, *Min. Conch.* **1** : 211, pl. 93) (gender of generic name : neuter).

Bigotites Nicolesco, 1918, *C. R. Sommaire Soc. géol. France* (4) **18** : 36 (type species, by selection by Nicolesco, 1931 (*Mém. Soc. géol. France* **17** : 23) : *Bigotella petri* Nicolesco, 1917, *Bull. Soc. géol. France* (4) **16** : 167, pl. 4, figs. 4, 5) (gender of generic name : masculine).

Cadoceras Fischer, 1882, *Manuel Conchyl.* : 394 (type species by selection by Arkell in the present application : *Ammonites sublaevis* Sowerby (J.), 1814, *Min. Conch.* **1** : 117, pl. 54) (gender of generic name : neuter).

Cadomites Munier-Chalmas, 1892, *Bull. Soc. géol. France* (3) **20** C. R.: clxx (type species, by original designation : *Ammonites deslongchampsi* (Defrance MS) d'Orbigny, 1846, *Pal. française*, Terr. jurass. : 405, pl. 138, figs. 1, 2) (gender of generic name : masculine).

Coroniceras Hyatt, 1867, *Bull. Mus. comp. Zool.* **3** : 77 (type species, by selection by Bonarelli, 1900 (*Pal. ital.* **5** : 58) : *Ammonites kridion* Hehl *in* Zieten [1830], *Verstein, Württemb.* (1) : 4, pl. 3, fig. 2) (gender of generic name neuter).

Echioceras Bayle, 1878, *Explic. Carte géol. France* **4** : explic. pl. 77, figs. 2, 3 (type species, by monotypy : *Ammonites raricostatus* Zieten, [1831], *Verstein. Württemb.* (3) : 18, pl. 13, fig. 4) (gender of generic name : neuter).

Garantiana Mascke, 1907, *Die Stephanoceras-Verwandt. Coronatensch. Norddeutschl.* 24, 34 : type species, by original designation : *Ammonites garantianus* d'Orbigny, 1846, *Pal. française*, Terr. jurass. : 377, pl. 123 (gender of generic name : feminine).

Lamberticeras Buckman (S.), 1920, *Type Ammonites* **3** : 14, pl. 154 (type species, by original designation : *Ammonites lamberti* Sowerby (J.), 1819, *Min. Conch.* **3** : 73, pl. 242, figs. 1–3) (gender of generic name : neuter).

Ludwigella Buckman (S.), 1901, *Proc. Cotteswold Nat. Field Club* **13** : 266 (type species, by monotypy : *Ammonites concavus* Sowerby (J.), 1815, *Min. Conch.* **1** : 214, pl. 94 (holotype refigured by Buckman (S.), 1887, *Mon. Inf.-Ool. Ammonites* : pl. 2, figs. 6, 7)) (gender of generic name : feminine).

Oecotraustes Waagen, 1869, *in* Benecke's *Geognost.–Pal. Beiträge* **2** : 251 (type species, by selection by Munier-Chalmas, 1892 (*Bull. Soc. géol. France* (3) **20** C. R. : clxxi) : *Oecotraustes genicularis* Waagen, 1869, *in* Benecke's *Geognost.–Pal. Beiträge* **2** : 227, pl. 20 figs. 4a–c) (gender of generic name : masculine).

Oppelia Waagen, 1869, *in* Benecke's *Geognost.–Pal. Beiträge* **2** : 200 (type species, by selection by Douvillé (H.), 1884 (*Bull. Soc. géol. France* (3) **13** : 32) : *Ammonites subradiatus* Sowerby (J. de C.), 1823, *Min. Conch.* **5** : 23, pl. 421, fig. 2) (gender of generic name ; feminine).

Phlyseogrammoceras Buckman (S.), 1901, *Proc. Cotteswold Nat. Field Club* **13** : 266 (type species, by monotypy : *Ammonites dispansus* Lycett, 1860, *Proc. Cotteswold Nat. Field Club* **2** : 146 (holotype refigured by Buckman (S.), 1922, *Type Ammonites* **4** : pl. 340)) (gender of generic name : neuter). .

Pleuroceras Hyatt, 1867, *Bull. Mus. comp. Zool.* **3** : 89 (type species, by selection by Fischer, 1882 (*Manuel Conchyl.* : 388) : *Ammonites spinatus* Bruguière, 1789, *Ency. méth.* (Vers) : 40) (gender of generic name : neuter).

Pseudogrammoceras Buckman (S.), 1901, *Proc. Cotteswold Nat. Field Club* **13** : 266 (type species, by monotypy : *Ammonites struckmanni* Denckmann, 1887, *Fauna Doernten, Abh. geol. Specialkarte Preussen* **8** : 72, pl. iii. fig.1) (gender of generic name : neuter).

Pseudoperisphinctes Schindewolf, 1923, *Centralbl Min.* **23** : 346 (type species, by monotypy : *Perisphinctes rotundatus* Roemer (J.), 1911, *Fauna Aspidoides-Schichten Lechstedt*, Inaug.–Dissert. Göttingen : 44, pl. 8, fig. 2, as defined by the selection of a lectotype by Arkell, 1950 (*J. Palaeont.* **24** : 363)) (gender of generic name : masculine).

Psiloceras, Hyatt, 1867, *Bull. Mus. comp. Zool.* **3** : 72 (type species, by selection by Spath, 1924 (*Proc. geol. Assoc.* **35** : 191) : *Ammonites planorbis* Sowerby (J. de C.), 1824, *Min. Conch.* **5** : 69, pl. 448, fig. 1) (gender of generic name : neuter).

Quenstedtoceras (emend. of *Quenstedioceras*) Hyatt, 1877, *Proc. Boston nat. Hist. Soc.* **18** : 391 (type species, by monotypy : *Ammonites leachi* Sowerby (J), 1819, *Min. Conch* **3** : 73, pl. 242, fig. 4) (gender of generic name : neuter).

Sigaloceras Hyatt, 1900, *in* Eastman's Zittel, *Textb. Pal.* **1** : 587 (type species, by original designation : *Ammonites calloviensis* Sowerby (J.), 1815, *Min. Conch.* **2** : 3, pl. 104) (gender of generic name : neuter).

Stephanoceras Waagen, 1869, *in* Benecke's *Geognost.–Pal. Beiträge* **2** : 248 type species, by selection by Buckman (S.), 1898 (*Quart. J. geol. Soc.* **54** : 454) : *Ammonites humphriesianus* Sowerby (J. de C.), 1825, *Min. Conch.* **5** : 161, pl. 500, fig. 1) (gender of generic name : neuter).

5. The trivial names of the type species of the genera specified in the preceding paragraph are all valid names, and each is the oldest available name for the species concerned. It is recommended that these trivial names, as listed below, should now be placed on the *Official List of Specific Trivial Names in Zoology* :—

Names recommended for addition to the " Official List of Specific Trivial Names in Zoology "

calloviensis Sowerby (J), 1815, *Min. Conch.* **2** : 3, pl. 104 (as published in the binominal combination *Ammonites calloviensis*).

concavus Sowerby (J.), 1915, *Min. Conch.* **1** : 214, pl. 94 (as published in the binominal combination *Ammonites concavus*).

deslongschampsi (Defrance MS). d'Orbigny, 1846, *Pal. française*, Terr. jurass. : 405, pl. 138, figs. 1, 2 (as published in the binominal combination *Ammonites deslongschampsi*).

dispansus Lycett, 1860, *Proc. Cotteswold Nat. Field Club* **2**: 146 (as published in the binominal combination *Ammonites dispansus*).

garantianus d'Orbigny, 1846, *Pal. française*, Terr. jurass. : 377, pl. 123 (as published in the binominal combination *Ammonites garantianus*).

genicularis Waagen, 1869, *in* Benecke's *Geognost.-Pal. Beiträge* **2** : 227, pl. 20, figs. 4a–c (as published in the binominal combination *Oecotraustes genicularis*).

humphriesianus Sowerby (J. de C.), 1825, *Min. Conch.* **5** : 161, pl. 500, fig. 1 (as published in the binominal combination *Ammonites humphriesianus*).

kridion Hehl *in* Zieten, [1830], *Verstein. Würrtemb.* (1) : 4, pl. 3, fig. 2 (as published in the binominal combination *Ammonites kridion*).

lacunatus Buckman (J.), 1844, *Geol. Cheltenham* : 105 (as published in the binominal combination *Ammonites lacunatus*).

lamberti Sowerby (J.), 1819, *Min. Conch.* **3** : 73, pl. 242, figs. 1–3 (as published in the binominal combination *Ammonites lamberti*).

leachi Sowerby (J.), 1819, *Min. Conch.* **3** : 73, pl. 242, fig. 4 (as published in the binominal combination *Ammonites leachi*).

petri Nicolesco, 1917, *Bull. Soc. géol. France* (4) **16** : 167, pl. 4, figs. 4, 5 (as published in the binominal combination *Bigotella petri*)

planorbis Sowerby (J. de C.), 1824, *Min. Conch.* **5** : 69, pl. 448, fig. 1 (as published in the binominal combination *Ammonites planorbis*).

raricostatus Zieten [1831], *Verstein. Württemb.* (3) : 18, pl. 13, fig. 4 (as published in the binominal combination *Ammonites raricostatus*).

rotundatus Roemer (J.), 1911, *Fauna Aspidoides-Schichten Lechstedt*, Inaug. Dissert. Göttingen : 44, pl. 8, fig. 2 (as published in the binominal combination *Perisphinctes rotundatus*).

scipionianus d'Orbigny, 1844, *Pal. française*, Terr. jurass. : 207, pl. 51, figs. 7, 8 (as published in the binominal combination *Ammonites scipionianus*).

spinatus Bruguière, 1789, *Ency. méth.* (Vers) : 40 (as published in the binominal combination *Ammonites spinatus*).

stellaris Sowerby (J.), 1815, *Min. Conch.* **1** : 211, pl. 93 (as published in the binominal combination *Ammonites stellaris*).

struckmanni Denckmann, 1887, *Fauna Doernten, Abh. geol. Specialkarte Preussen* **8** : 72, pl. 3, fig. 1 (as published in the binominal combination *Ammonites struckmanni*).

sublaevis Sowerby (J.), 1814, *Min. Conch.* **1** : 117, pl. 54 (as published in the binominal combination *Ammonites sublaevis*).

subradiatus Sowerby (J. de C.), 1823 *Min. Conch.* **5**: 23, pl. 421, fig. 2 (as published in the binominal combination *Ammonites subradiatus*.)

6. The recommendations which I therefore now submit to the International Commission on Zoological Nomenclature are that it should :—

(1) declare that under Article 19 :—
  (*a*) the correct spelling of the generic name published by Waagen in 1869 both as *Oecotraustes* and as *Oekotraustes* is *Oecotraustes* ;
  (*b*) the correct spelling of the generic name published by Hyatt in 1877 as *Quenstedioceras* is *Quenstedtoceras* ;

(2) place on the *Official List of Generic Names in Zoology* the twenty-one generic names specified in paragraph 4 of the present application ;

(3) place on the *Official List of Specific Trivial Names in Zoology* the twenty-one trivial names specified in paragraph 5 of the present application ;

(4) place the under-mentioned names or alleged names on the *Official Index of Rejected and Invalid Generic Names in Zoology* :—
  (*a*) *Bourkelamberticeras* Buckman (S.), 1920 (an objective junior synonym of *Lamberticeras* Buckman (S.), 1920) ;
  (*b*) *Garantia* Rollier, 1909 (an unjustified emendation of *Garantiana* Mascke, 1907) ;
  (*c*) *Garantiana* Hyatt, 1900 (a *nomen nudum*) ;
  (*d*) *Lamberticeras* Kilian, 1910 (a *nomen nudum*) ;
  (*e*) *Oekotraustes* Waagen, 1869 (an erroneous spelling of *Oecotraustes* Waagen, 1869) ;
  (*f*) *Paltopleuroceras* Buckman (S.), 1898 (an objective junior synonym of *Pleuroceras* Hyatt, 1867) ;
  (*g*) *Quenstedticeras* Teisseyre, 1889 (an incorrect emendation of the defective form, *Quenstedioceras*, in which the name *Quenstedtoceras* was originally published) ;
  (*h*) *Quenstedioceras* Hyatt, 1877 (an erroneous spelling of *Quenstedtoceras* Hyatt, 1877) ;
  (*i*) *Stepheoceras* Buckman (S.), 1898 (an objective junior synonym of *Stephanoceras* Waagen, 1869).

APPENDIX

Explanatory notes regarding certain of the generic names proposed to be added to the " Official List of Generic Names in Zoology "

The sign * prefixed before the name of a genus indicates that the type species of that genus has been used as a zonal index fossil and is therefore of special importance in stratigraphy.

* *Agassiceras* Hyatt, 1875 : Although in 1894 he had selected *Ammonites scipionianus* d'Orbigny, 1844, as the type species of this genus, Buckman (S.) later (1909, *Type Ammonites* **1** : ii) sought to change the type species of this genus to *Ammonites striaries* Quenstedt, 1858. See also Buckman, 1924, *op. cit.* **5** : 33. Roman (1938, *Ammonites jurass. et. crét.* : 102) wrongly gave *Ammonites laevigatus* Sowerby (J. de C.). 1827, as the type species.

Angulaticeras Quenstedt, 1883 : The only originally included species in this genus were *Ammonites lacunatus* Buckman (J.), 1844, and *Ammonites boucaultianus* d'Orbigny, 1844. Buckman (S.) in 1906 (*Proc. Cotteswold Nat. Field Club* **15** : 233) selected as typical of this genus " the group of *Am. lacunatus* Quenstedt." This cannot be accepted as the selection of a type species under Rule (g) in Article 30 " rigidly construed." Accordingly, the first valid type-selection for this genus is that cited in the present application, namely, that by Lange (1924).

* *Asteroceras* Hyatt, 1866 : As stated in the application, the first type-selection for this genus was that of *Ammonites stellaris* Sowerby (J.), 1815, by Buckman (1911). Roman, 1938 (*Ammonites jurass. crét.* : 91) was therefore in error when he stated that *Ammonites obtusus* Sowerby (J.), 1817, was the type species.

Bigotites Nicolesco, 1918 : Roman (overlooking the action by Nicolesco in 1931) erroneously stated (1938, *Ammonites jurass. crét.* : 240) that *Bigotella haugi* Nicolesco, 1917, was the type species of this genus.

Cadoceras Fischer, 1882 : Fischer cited as sole species of this genus, the pre-1758 name *Nautilites modiolaris* Luidius, 1699 (*Lithophyl. Brit.* : 18, pl. vi, fig. 292), which has commonly been treated by authors as applying to the same species as *Ammonites sublaevis* Sowerby (J.), 1814. The first author to cite nominal species under the generic name *Cadoceras* Fischer appears to have been Nikitin (1884, *Cephalopodenfauna der Jurabildungen des Gouv. Kostroma* : 21), who after stating incorrectly that the generic name *Cadoceras* was chosen by Fischer for *Am. sublaevis* and similar forms of *Stephanoceras* described three species as belonging to this genus and mentioned several others. Under the decision taken by the Thirteenth International Congress of Zoology, when incorporating in the *Règles* a clarified and amended version of the ruling previously given by the Commission in *Opinion* 46 (see 1950, *Bull. zool. Nomencl.* **4** : 159-160, 340), the nominal species cited by Nikitin are alone eligible for selection as the type species of *Cadoceras*. Fortunately, as shown above, *Ammonites sublaevis* Sowerby, which is commonly regarded as representative of *Cadoceras* (through its identification with the *modiolaris* of Luidius) was one of the species cited by Nikitin and is therefore eligible for selection as the type species of this genus. Neither Nikitin nor Pompeckj (1899) nor any subsequent author has, so far as I can ascertain, ever selected a type species for *Cadoceras* Fischer. Accordingly, in order to regularise existing practice, I have now (: 224) selected *Ammonites sublaevis* Sowerby, 1814 (=*Cadoceras sublaeve* (Sowerby (J.), 1814)) to be the type species of *Cadoceras* Fischer, 1882.

Cadomites Munier-Chalmas, 1892 : This generic name has been wrongly used in many French works for the genus, the correct name of which is *Stephanoceras* Waagen, 1869 (q.v.). The lectotype of *Ammonites deslongchampsi* d'Orbigny, 1846 (the type species of this genus) was refigured in 1909 (*Palaeont. univ.* **1909** : pl. 132).

Coroniceras Hyatt, 1867 : As stated in the present application, Bonarelli in 1900 selected *Ammonites kridion* Hehl. 1830, as the type species of this genus. The later action by Buckman (S.) (1911, *Type Ammonites* **1** : vi) in so selecting *Ammonites coronaries* Quenstedt, 1858, was therefore invalid. It has however, led to some misuse of the generic name *Coroniceras*.

* *Echioceras* Bayle, 1878 : The type species of this genus is (as stated in the present application) *Ammonites raricostatus* Zieten, [1831], by monotypy. Buckman (S.) (1914, *Type Ammonites* **2** : ix) was therefore in error when he stated that the type species was *Echioceras raricostatoides* Vadasz, 1908, this being the name of the species erroneously figured by Bayle as *Echioceras rarecostatum* [*sic*] (Zieten). This action by Buckman has led to some confusion in later works.

* *Ludwigella* Buckman (S.), 1901 : Although the type species of this genus is *Ammonites concavus* Sowerby (J.), 1815, by monotypy, Buckman twice later attempted invalidly to change the type species (1904, *Mon. Inf. Ool. Amm.*, Suppl. : lxxxiv ; 1923, *Type Ammonites* **4** : 56).

Oppelia Waagen, 1869 : The type species of this genus is (as stated in the present application) *Ammonites subradiatus* Sowerby (J. de C.), 1823, by selection by Douvillé (H.) in 1884. The later action by Buckman (S.) (1920, *Type Ammonites* **3** : 25) in selecting one of Waagen's figured specimens as " genolectype " was therefore invalid.

* *Phlyseogrammoceras* Buckman (S.), 1901 : Although (as stated in the present application the type species of this genus is *Ammonites dispansus* Lycett, 1860, Buckman (S.) erroneously attempted (1904, *Mon. Inf. Ool. Amm.*, Suppl. : cliv) to change the type species to *Ammonites metallarius* Dumortier, 1874.

* *Pseudogrammoceras* Buckman (S.), 1901 : This is another monotypical genus (type species : *Ammonites struckmanni* Denckmann, 1887), the type species of which Buckman later (1904, *Mon. Inf. Ool. Amm.*, Suppl. : cxliii) attempted incorrectly to alter.

* *Pseudoperisphinctes* Schindewolf, 1923 : This case is similar to that of *Pseudogrammoceras*, Schindewolf in 1925 (*Neues Jahrb. für Min.* **1925** : 319) attempting to alter the type species.

* *Psiloceras* Hyatt, 1867 : Buckman (S.) (1924, *Type Ammonites* **5** : 34) criticised Spath's action in the same year in selecting *Ammonites planorbis* Sowerby (J. de C.), 1824, and erroneously rejected that action, arguing that *Ammonites psilonotus* Quenstedt, 1845, was the type species by virtual tautonymy.

* *Sigaloceras* Hyatt, 1900 : This is a case where the original author of the generic name designated a type species, citing, for this purpose, a specific name (*Ammonites calloviensis*) previously published by Sowerby (J.) in 1815, but attributing it to another author (d'Orbigny). The specimens treated by d'Orbigny as belonging to Sowerby's species have not yet been examined and it is therefore not known whether they were correctly determined. In any case, authors have treated Sowerby's species as being the type species of this genus (thereby conforming to the requirements of *Opinions* 65 and 168, the decisions in which were confirmed by the Thirteenth International Congress of Zoology in Paris in 1948—see *Bull. zool. Zool.* **4** : 158-159). Accordingly, there are in this case no grounds for asking the International Commission to change the type species.

PROPOSED USE OF THE PLENARY POWERS FOR THE PURPOSE OF MAKING THE TRIVIAL NAME " VIRGULA " DESHAYES, 1831 (AS PUBLISHED IN THE BINOMINAL COMBINATION " GRYPHAEA VIRGULA ") (CLASS PELECYPODA) (JURASSIC) THE OLDEST AVAILABLE NAME FOR THE SPECIES IN QUESTION

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(Commission's reference Z.N.(S.)407)

1. The small sickle-shaped oyster characteristic of the lower part of the Kimeridge Clay all over England and Europe has been known for about 130 years, in the literature of all languages, as *Exogyra virgula* (Deshayes (=*Gryphoea virgula* Deshayes, 1831 (: 90, pl. v, figs. 12, 13)). (The name *Ostrea virgula*, as published by Defrance, 1820, was intended to denote the same species, but the name, as then published, was a *nomen nudum*.)

2. The " Marnes à Ostrea virgula " have figured in French literature at least since 1833 (Thirria : 145), and the Virgulaschichten in German literature at least since 1864 (von Seebach : 56) ; and Thurmann's Virgulian Stage (1852) has been adopted by many geologists. *Exogyra virgula* is the only name used for this species in all geological text-books of all languages.

3. In 1930, Dr. L. R. Cox discovered (Cox, 1930 : 298) that the species named *Exogyra virgula* by Deshayes in 1831 had been named and briefly diagnosed, but not figured, by William Smith fourteen years earlier (1817 : 45) under the name *Chama striata*. The description was " Oblong, elongated, curved, longitudinally striated ; striae irregular ", and two Kimeridge Clay localities were given. Two syntypes survive in the William Smith collection and Cox selected one of those as the lectotype and published a figure of it. There is also another long rejected trivial name which unfortunately has priority over the name *virgula* Deshayes, 1831 ; this is the name *angusta* Lamarck, 1819 (: 200) (as published in the binominal combination *Gryphaea angusta*).

4. On the advice of the late Dr. F. L. Kitchin, then Chief Palaeontologist of the Geological Survey, I continued to use the name *Exogyra virgula* in my *Jurassic System* (1933), and on the advice of his successor, Mr. C. P. Chatwin, I did the same in the official memoir on the type-area of the Kimeridge Clay (Arkell, 1947).

5. In view of the geological importance of this fossil and the length of time during which it has been known by the name *Exogyra virgula* and the needless confusion and inconvenience which would arise if that name were to be discarded in favour of the totally neglected name bestowed upon it by

William Smith, or by the equally neglected name *angusta* Lamarck, 1819, I recommend the International Commission on Zoological Nomenclature (1) to suppress the trivial names *striata* Smith, 1817 (as published in the binominal combination *Chama striata*), and *angusta* Lamarck, 1819 (as published in the binominal combination *Gryphaea angusta*), (2) to place the foregoing trivial names on the *Official Index of Rejected and Invalid Specific Trivial Names in Zoology*, and (3) to place the trivial name *virgula* Deshayes, 1831 (as published in the binominal combination *Gryphaea virgula*) on the *Official List of Specific Trivial Names in Zoology.*

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Arkell, W. J., 1933. " The Jurassic System in Great Britain."

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Defrance, M. J. L., 1821. *Dict. Sci. nat.*, **22** : 26.

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Lamarck, J. B. P. A. de M. de, 1819. *Hist. nat. Anim. s. Vertèbr.*, **6**(1) : 200.

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Thirria, 1833. *Statisque de la Haute Saône.*

PROPOSED USE OF THE PLENARY POWERS FOR THE PURPOSE OF MAKING THE TRIVIAL NAME "ASPER" LAMARCK, 1819 (AS PUBLISHED IN THE BINOMINAL COMBINATION "PECTEN ASPER") (CLASS PELECYPODA) THE OLDEST AVAILABLE NAME FOR THE SPECIES IN QUESTION

By W. J. ARKELL, M.A., D.Sc., F.R.S.
(*Sedgwick Museum, Cambridge University, Cambridge*)

(Commission's reference Z.N.(S.)408)

1. *Pecten asper* Lamarck (1819 : 167, 180) is a common and characteristic fossil of the Upper Greensand all over England and Europe. For 130 years it has been known by no other name.

2. This name was used as a zonal index by Barrois (1876 : 14), since when the Zone of *Pecten asper* has appeared in numerous text-books and in the official memoirs of the Geological Survey, especially the great stratigraphical memoir on the Cretaceous rocks (Jukes-Browne, 1900 : 62, etc.) and in Woods' monograph on the British Cretaceous Lamellibranchia (: 186, pls. xxxv—vi).

3. In 1940, Dr. L. R. Cox discovered (Cox, 1940 : 125) that the species named *Pecten asper* by Lamarck in 1819 had been described and figured six years earlier in an obscure publication by Pulteney (1813 : 107, 108, figs. 4, 5) as *Pecten scaber* and *Pecten triplicatus*. He adopted the former name on account of page priority, and it appears to be the valid name.

4. Although the fossil *Pecten asper* has been superseded by an ammonite as a better zonal index, it is still an important stratigraphical fossil, and it occupies a place in the history of stratigraphy which makes a change of name at this late date extremely undesirable as being calculated to cause confusion in nomenclature without serving any useful purpose.

5. I accordingly ask the International Commission on Zoological Nomenclature (1) to use their plenary powers to suppress the trivial names *scaber* Pulteney, 1813 (as published in the binominal combination *Pecten scaber*) and *triplicatus* Pulteney, 1813 (as published in the binominal combination *Pecten triplicatus*), (2) to place the foregoing trivial names on the *Official Index of Rejected and Invalid Specific Trivial Names in Zoology*, and (3) to place the trivial name *asper* Lamarck, 1819 (as published in the binominal combination *Pecten asper*) on the *Official List of Specific Trivial Names in Zoology*.

References :

Barrois, C., 1876. *Recherches sur le terrain crétacé supérieur de l'Angleterre et de l'Irlande*, Lille.

Cox, L. R., 1940. "Cretaceous mollusca described by R. Pulteney in the second edition of Hutchins' History of Dorset (1813)", *Proc. malacol. Soc., Lond.* **24** : 121.

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Lamarck, J. P. B., 1819, "*Hist. nat. Anim. sans Vertèbr.*", **6**(1) : 167, 180.

Pulteney, R., 1813. "Catalogue of the birds, shells, and some of the more rare plants of Dorsetshire," *in* Hutchins' *History of Dorset*, 1st ed.

Woods, H., 1899—1903. "A monograph of the Cretaceous lamellibranchia of England" (Palaeontographical Soc.)

ON DR. W. J. ARKELL'S PROPOSAL FOR THE VALIDATION, UNDER THE PLENARY POWERS, OF THE TRIVIAL NAMES "ASPER" LAMARCK, 1819 (AS PUBLISHED IN THE BINOMINAL COMBINATION "PECTEN ASPER") AND "VIRGULA" DESHAYES, 1831 (AS PUBLISHED IN THE BINOMINAL COMBINATION "GRYPHAEA VIRGULA") (CLASS PELECYPODA)

By L. R. COX, Sc.D., F.R.S.
(*Department of Geology, British Museum (Natural History), London*)

(Extract from a letter dated 11th September, 1950)

(Commission's references Z.N.(S.)407 (" virgula ") and Z.N.(S.)480 (" asper "))

Thank you for your letter of 23rd August referring to the application for the protection of the names *Gryphaea virgula* and *Pecten asper*. Certainly the two names to which the present applications relate are so well known that they should be among the first to be protected.

ON AN APPLICATION, THE GRANT OF WHICH WOULD REQUIRE THAT THE NAME "GRYPHAEA" LAMARCK, 1801, SHOULD BE SUPPRESSED, UNDER THE PLENARY POWERS, THUS VALIDATING THE NAME "GRYPHAEA" LAMARCK, 1819 (CLASS PELECYPODA)

By FRANCIS HEMMING, C.M.G., C.B.E.
(*Secretary to the International Commission on Zoological Nomenclature*)

(Commission's reference Z.N.(S.)365)

1. Attention is drawn to a request submitted by M. Gilbert Ranson to the International Commission on Zoological Nomenclature at its Session held in Paris in 1948, in which he asked the Commission to give a ruling (1) that the generic name *Gryphaea* Lamarck ranks for purposes of zoological nomenclature from 1819 not from 1801 (the year in which it was first published) and (2) that the type species of this genus is *Gryphaea angulata* Lamarck, 1819 (*Hist. nat. Anim. sans Vertèbr.* **6**(1) : 198). The text of M. Ranson's application has been published by the Commission (1950, *Bull. zool. Nomencl.* **3** : 168-170), as also has been the *Official Record of Proceedings* at the Meeting of the International Commission at which M. Ranson's application was presented (1950, *Bull. zool. Nomencl.* **4** : 306) and that of the Meeting of the Section on Nomenclature of the Thirteenth International Congress of Zoology held concurrently with the meeting of the Commission (1950, *Bull. zool. Nomencl.* **5** : 96-98).

2. The late Mr. R. Winckworth pointed out at that meeting that the generic name *Gryphaea* Lamarck, 1801 (*Syst. Anim. sans Vertèbr.* : 398) was published with a diagnosis and therefore that, this name, so published, satisfies the requirements of Article 25 of the *Règles*. On the above occasion Lamarck cited, under this generic name, the names of nine nominal species ; several of those names were at that time *nomina nuda*, but others were validated by the citation of bibliographical references. Under the *Règles*, therefore, these latter species alone are eligible for selection as the type species of this genus. One of these nominal species, *Gryphaea arcuata* Lamarck, 1801 (*loc. cit.* : 398), was selected as the type species of this genus by Anton in 1839 (*Verz. Conchyl.* : 21). This being the first occasion on which any of originally included species was so selected, the fossil species *Gryphaea arcuata* Lamarck, 1801, is under the *Règles* the type species of the genus *Gryphaea* Lamarck, 1801.

3. M. Ranson has made it clear in his application that he considers it important that the name *Gryphaea* Lamarck should be accepted as the generic name for the recent species *Gryphaea angulata* Lamarck, 1819 ; this species was so selected by Children (1823). This type selection, though prior to that by Anton, is invalid, since at the time when in 1801 the generic name *Gryphaea* was first validly published by Lamarck, the name *Gryphaea angulata*, then cited by Lamarck, was a mere *nomen nudum* and accordingly does not rank as an originally included species and is ineligible for selection by a later author to be the type species of the genus in question. In presenting this problem to the International Commission, M. Ranson argued in favour of the acceptance of the *Histoire Naturelle* of 1819 in place of the *Systême* of 1801 as the work, as from which the type species of the genus *Gryphaea* Lamarck should be chosen. In advancing this view, M. Ranson did not ask that the International Commission should use its plenary powers to secure the end that he had in view but sought to show that it would be permissible, under the normal operation of the *Règles*, to disregard the *Systême* of 1801. As the late Mr. Winckworth has shown, this would, however, not be possible. Nevertheless, if the majority of interested specialists were to favour the end sought by M. Ranson, namely the acceptance of *Gryphaea angulata* Lamarck, 1819, as the type species of the nominal genus *Gryphaea* Lamarck, a solution in that sense could readily be provided by the International Commission by the use of its plenary powers.

4. The issue which, in effect, the International Commission is asked to decide is :—

(1) whether the normal provisions of the *Règles* are to be allowed to operate in the present case, with the result that the generic name *Gryphaea* would rank from Lamarck, 1801, and would have, as its type species, the fossil species, *Gryphaea arcuata* Lamarck, 1801 (by selection by Anton, 1839) ; or

(2) whether the plenary powers should be used to suppress the name *Gryphaea* Lamarck, 1801, and all uses of that generic name from 1801 to the date in 1819, when it was republished by Lamarck in the *Hist. nat. Anim. sans Vertèbr*, the name *Gryphaea* Lamarck, 1819 (so validated) having, as its type species, the recent species *Gryphaea angulata* Lamarck, 1819 (by selection by Children, 1823).

5. As the application submitted in this matter by M. Ranson is of direct concern to palaeontologists as well as to zoologists, the International Commission, before reaching a decision, will be anxious to be fully informed of the wishes of interested specialists in both fossil and recent species of the group concerned.

6. The object of the present note is to draw attention to the problem which has been submitted to the International Commission and to invite interested specialists to be good enough to furnish the Commission as soon as possible with their views on that problem and on the best means of solving it. Communications on this subject should be addressed to the Secretary to the International Commission on Zoological Nomenclature, Secretariat of the Commission, 28 Park Village East, Regent's Park, London, N.W.1, England.

PURCHASED
-5 MAY 1951

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FRANCIS HEMMING, C.M.G., C.B.E.

Secretary to the International Commission on Zoological Nomenclature

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BULLETIN OF ZOOLOGICAL NOMENCLATURE

Volume 2, Parts 9/10 (pp. 241–304) 15th August, 1951

NOTICES PRESCRIBED BY THE INTERNATIONAL CONGRESS OF ZOOLOGY

The following notices are given in pursuance of decisions taken, on the recommendation of the International Commission on Zoological Nomenclature (see 1950, *Bull. zool. Nomencl.* **4** : 51–56, 57–59), by the Thirteenth International Congress of Zoology, Paris, July 1948 (see 1950, *Bull. zool. Nomencl.* **5** : 5–13, 131).

(a) Date of commencement by the International Commission on Zoological Nomenclature of voting on applications published in the " Bulletin of Zoological Nomenclature "

Notice is hereby given that normally the International Commission will start to vote upon applications published in the *Bulletin of Zoological Nomenclature* on the expiry of a period of six calendar months from the date of publication in the *Bulletin* of the applications in question. Any specialist who may desire to comment upon any of the applications published in the present Double Part (vol. 2, Parts 9/10) of the *Bulletin* is accordingly invited to do so in writing to the Secretary to the Commission, as quickly as possible and in any case, in sufficient time to enable the communication in question to reach the Secretariat of the Commission before the expiry of the six-month period referred to above.

Notices prescribed by the International Congress of Zoology (*continued*).

(b) Notice of the possible use by the International Commission on Zoological Nomenclature of its plenary powers in certain cases

NOTICE is hereby given that the possible use of the plenary powers is involved in applications published in the present Double Part of the *Bulletin of Zoological Nomenclature* (Vol. 2, Parts 9/10) in relation to the following names :—

(1) *Entamoeba* Casagrandi & Barbagallo, 1895, *Endamoeba* Leidy, 1879, and *Poneramoeba* Lühe, 1909 (Class Rhizopoda) (action designed to validate existing practice) (Z.N.(S.) 185).

(2) *dentatus* Diesing, 1839 (as published in the binominal combination *Stephanurus dentatus*) (question whether this name should be preserved for the kidney worm of swine) (Z.N.(S.) 188).

(3) *Eysarcoris* Hahn, 1834 (Class Insecta, Order Hemiptera) (proposed validation of existing nomenclatorial practice) (Z.N.(S.) 212).

(4) *acuminata* Ioff & Tiflov, 1946 (as published in the combination *Rhadinopsylla* (*Rectofrontia*) *acuminata*) as applied to species No. 68 (proposed elimination of homonymy caused by a printer's error) (Z.N.(S.) 386).

FRANCIS HEMMING,
Secretary to the International Commission on Zoological Nomenclature.

Secretariat of the
International Commission on
Zoological Nomenclature,
28, Park Village East, Regent's Park,
LONDON, N.W.1, England.

28*th July*, 1951.

"ENTAMOEBA COLI" VERSUS "ENDAMOEBA COLI"

By HAROLD KIRBY
(*Department of Zoology, University of California, Berkeley, California, U.S.A.*)

(Commission's reference Z.N.(S.)185)

(Application submitted to the International Commission on Zoological Nomenclature on 17th January, 1945: first published in June, 1945, in *The Journal of Parasitology* **31** (3): 177-184).

In drawing up the argument for *Opinion* 99 of the International Commission on Zoological Nomenclature, Stiles showed a wish to reject the name *Entamoeba* in the interest of clear distinction. He wrote: " It seems obvious that unless the name *Entamoeba* is definitely suppressed both the nomenclatorial and the taxonomic status of the species which come into consideration will become even more confused." The result of his reasoning was rejection of the name, but the benefits that he hoped for have not been realised. There have been some who in following the *Opinion* have been influenced to take a position regarding the taxonomic status of the amoebae that is not in accord with clear distinction, because unless they took that position the necessary large nomenclatorial departure from the usage that is very widespread in the literature of medical zoology would indeed result in confusion. Retention of the two names *Endamoeba* and *Entamoeba* would permit a clear-cut taxonomic differentiation to be made at the same time that a minimum of departure from customary usage is necessitated. Therefore it seems to me that *Opinion* 99 has actually increased the difficulty that Stiles wished to avoid. I agree with Dobell (1938) that the *Opinion* in its present form should not be regarded as decisive.

The equivocal interpretation that some authors have made of *Opinion* 99 is illustrated by Craig's criticism (1944) of Kudo's retention of the name *Entamoeba*: " It would have been much better had he followed the ruling of the International Committee of Zoological Nomenclature and used the spelling recommended by it as preferable, i.e., ' Endamoeba.' " Kudo took the position that the species *coli* should not be put into the same genus as the species *blattae*, and his failure to follow *Opinion* 99 made it possible for him to choose *Entamoeba* as the generic name for *coli*. It is not a question of alternative spelling of the name of the genus: the *Opinion* does not constitute an approval of the spelling *Endamoeba* as against *Entamoeba*. There is no choice of orthography: *Endamoeba* is correct and has priority as the name of the genus typified by *E. blattae*; all amoebae in that genus are called *Endamoeba*, and those not in that genus cannot be called *Endamoeba*.

The *Opinion* was published in 1928, and so far as I know, between that time and this only two names have been used in connection with the species *coli*, *histolytica* and *gingivalis*: *Endamoeba* by those who put the three amoebae into the same genus as *blattae*, and *Entamoeba* by those who do not. The authors in the former group do not accept the generic distinction; whether or not they follow *Opinion* 99 does not properly enter into their adoption of *Endamoeba*. The authors in the latter group do recognise the generic distinction, and do not follow the *Opinion*. If there should be a third group of authors, who recognise generic distinction among these endozoic amoebae, and accept *Opinion* 99, it would be necessary for them to write *Poneramoeba histolytica*, *Poneramoeba coli*, and *Poneramoeba gingivalis*.

The following chronological summary of the history of this matter sets forth the important facts that need to be considered :—

1879. Leidy (1879a, p. 300) introduced the generic name *Endamoeba*, with the one species *Endamoeba blattae*, named *Amoeba blattae* by Bütschli in 1878. The same proposal was printed on 2nd December in Leidy, 1879b, p. 205.

1895. Casagrandi and Barbagallo introduced the generic name *Entamoeba*, giving as the included species *Amoeba coli* (Lösch) and *Amoeba blattarum* (Bütschli). They were ignorant of Leidy's name.

1897. Casagrandi and Barbagallo (p. 163) again printed the name *Entamoeba*, giving as the included species *Entamoeba hominis* and *Entamoeba blattarum*.

1903. Schaudinn, using the generic name *Entamoeba* C. & B., divided *Amoeba coli* of Lösch into two species, *Entamoeba coli* Lösch and *Entamoeba histolytica* n. sp. He did not mention the species *blattae*, and probably was ignorant of Leidy's name.

1910. Chatton assigned various endozoic amoeba to the genus " *Entamoeba* Leidy (1879)." Among the included species were : *Entamoeba* coli (Lösch) 1875, emend. Schaudinn (1903) ; *E. blattae* (Bütschli) 1878 ; *E. ranarum* (Grassi) 1881 ; *E. histolytica* Schaudinn 1903. Chatton stated that the paternity of *Entamoeba* had been wrongly attributed by authors to Casagrandi and Barbagallo. He made no reference to the fact that Leidy's name was actually *Endamoeba*.

1912. Séance du 14 février, mémoire paru le 5 mars (acc. to Chatton, 1912). Chatton and Lalung-Bonnaire wrote (p. 142) : " La dénomination non latine d'Entamibes, appliquée aux amibes normalement parasites du tube digestif est d'un usage commode qui la fera conserver. Mais traduite en nom générique latin, elle ne peut plus s'appliquer actuellement aux amibes du tube disgestif des Vertébrés. Ce n'est pas, en effet, à ces dernières qu'elle a été appliquée en premier lieu. C'est Leidy qui à créé le genre *Entamoeba* pour l'amibe de la Blatte, et ce n'est qu'en 1897 que Casagrandi et Barbagallo l'ont appliquée aux amibes intestinales des Vertébrés." The authors considered that the amoebae of vertebrates must be put in a separate genus, for which they proposed the name *Löschia*, to contain *coli* Lösch and other species.

1912. Séance du 26 mars. Chatton reported again the generic differentiation of endozoic amoebae made in the above paper. He definitely designated *Löschia coli* Lösch, cysts 8 nuclei or more, as type of the genus *Löschia*. Remarking that protistologists had wrongly attributed the paternity of the genus *Entamoeba* to Casagrandi and Barbagallo 1897, he wrote (p. 111) : " Ces derniers avaient bien appliqué le nom d'*Entamoeba* à une Entamibe humaine, mais Leidy l'avait donné dès 1879 à *l'Amoeba blattae* de Bütschli." In a footnote to this statement he noted that Leidy's spelling was " *Endamoeba*," but dismissed that name as an orthographic variant.

1913. Brumpt wrote of the amoebae of man under the name " *Entamoeba* Leidy, 1879," making the same mistake for *Endamoeba* that Chatton as well as Alexeieff (1912) had previously made. In a footnote (p. 21) he wrote : " Ce même genre a été créé de nouveau en 1897 par Casagrandi et Barbagallo pour leur *E. hominis*, synonyme de *E. coli*." That sentence has been accepted by Stiles and Boeck (1923, p. 122), Stiles and Hassall (1925, p. 8), and Stiles (1928 in *Opinion* 99) as a designation of the type *E. coli* (as *E. hominis*) for *Entamoeba* Casagrandi & Barbagallo. (In the third edition, 1922, Brumpt made the same error of " *Entamoeba* Leidy " ; but in the next one, 1927, he used *Entamoeba* C. & B. and noted that *Endamoeba* Leidy should be reserved, in agreement with Wenyon, 1926, for the amoeba of the roach.)

1919. Dobell used *Endamoeba* Leidy, 1879, for *E. blattae* only, and *Entamoeba* Casagrandi & Barbagallo, 1895, for *E. coli*, *E. histolytica*, and *E. gingivalis*.

1923. Stiles and Boeck, in a study of the nomenclatorial status of the protozoa of man (p. 125), considered the genus *Endamoeba* Leidy, 1879, with two sub-genera : *Endamoeba* Leidy, 1879 (type by monotypy *E. blattae*) and *Poneramoeba* Lühe, 1909 (type by monotypy and original designation *E. histolytica*). They stated (p. 124) that " *Entamoeba* 1895 is not available because of *Endamoeba* 1879 " ; evidently that is because they thought of *Entamoeba* as a homonym, or orthographic variant, because here they dealt with a separate taxonomic category (the sub-genus) from *Endamoeba*. The type of *Entamoeba* 1895 is given (p. 122, 124) as *E. hominis* tsd.=*coli* and *coli* (s. *hominis*) ; type by subsequent designation is by Brumpt, 1913.

1925. Stiles and Hassall, in the " Key-Catalogue of the Protozoa Reported for Man," list (p. 8) *Entamoeba* C. & B., 1895, type by subsequent designation *hominis*=*coli*, as a subjective synonym of *Endamoeba* Leidy, 1879. It appears from the definition of subjective synonym by Stiles and Boeck, 1923, that it is a category providing for cases where the identity in question is not absolute, but depends on " the experience and judgment of the reviser " (p. 138.) Since in the key-catalogue the types of *Entamoeba* and *Endamoeba* are given as different, although those two types are treated as members of the same genus, it is likely that the reference is to the difference of opinion about generic assignment. Otherwise *Entamoeba* would simply have been designated as a homonym ; that category is dealt with in the same paper. Reference to *Entamoeba* as a synonym is, therefore, evidently on the basis that its type, *Ent. coli*, belongs in the same genus as *End. blattae*, according to Stiles and Hassall.

1928. The International Commission on Zoological Nomenclature published *Opinion* 99 in response to an inquiry as to whether the names *Endamoeba* and *Entamoeba* should be considered homonyms. The summary of the *Opinion* reads : " *Entamoeba* 1895, with *blattae* as type by subsequent (1912) designation, is absolute synonym of *Endamoeba* Leidy, 1879a, p. 300, type *blattae*, and invalidates *Entamoeba* 1895, type by subsequent (1913) designation *hominis*=*coli*." The report also contained the decision that *Entamoeba* is a homonym of (" philologically the same as ") *Endamoeba*. It is presumably on that basis that the Secretary recommended that " the name *Entamoeba* 1895, either with type *hominis*=*coli* as definitely designated by Brumpt, 1913, p. 21, or with *blattae* as accepted by Chatton and Lalung (1912, 111) and as implied by Chatton (1910, 282), be definitely invalidated by *Endamoeba* Leidy, 1879a, p. 300, type *blattae*, irrespective of the point whether the type of *Entamoeba* be considered *blattae* or *coli*." (The reference to Chatton and Lalung, 1912, p. 111, is evidently a mistake for Chatton and Lalung-Bonnaire, 1912, p. 142, or for Chatton, 1912, p. 111.)

It is evident from this summary that Stiles (1928) was justified in his statement that " the case has already produced considerable confusion in literature." It is also evident, however, that this confusion need not have existed if authors had simply been attentive to the correct forms. Then *Endamoeba* Leidy would have been used for any generic concept including the species *blattae* ; and *Entamoeba* C. & B. would either have been rejected, or used solely for any generic concept omitting *blattae* and including *coli*. The errors made by earlier authors should not influence us in an effort to reach a solution of the problem.

The answer to the taxonomic problem is subject to differences of opinion. Many authors follow the usage of Stiles and Boeck, 1923, in writing *Endamoeba*, *coli* ; that usage has been almost universal in American compilations in medical zoology since it was adopted in 1926 by Craig (who in 1911 used *Entamoeba* Casagrandi and Barbagallo without reference to the genus *Endamoeba* Leidy). American writers who recognise generic distinction between *blattae* and *coli* include Kudo (1939, 1944), Wenrich (*Entamoeba* used for *histolytica* and *coli* in 1940, 1944, and other papers of similar date), Cleveland (Cleveland and Sanders, 1930, and other papers), Pearse (1942), and Meglitsch (1940, in connection with a profound study of *blattae*). And there are many in various parts of the world who follow the same course ; (for example, Wenyon, 1926 ; Dobell, 1919, 1938 ; Brumpt, 1936 ; Reichenow, 1928), so that it is not a question of individual or even minority disagreement in the question of taxonomic differentiation.

It is not my purpose in this paper to attempt to defend one position in taxonomy or attack the other. Because of the very large difference between the species *blattae* and *coli* in the nuclear structure of the trophic forms, I think that the burden of proof should rest on those who assert that the two amoebae belong in the same genus—especially when the same authors recognise as valid certain other genera of endozoic amoebae. A comprehensive analysis of the taxonomy of all amoebae, free living and endozoic, is much to be desired.

Morris (1936) examined the problem so far as certain endozoic amoebae are concerned; but the result of his study is not conclusive, for it omitted from consideration certain other endozoic amoebae that would also have to have the status of sub-genera of *Endamoeba*, according to his treatment. The purpose of the present paper is nomenclatorial: it is an attempt to show that the word *Entamoeba* should remain available for a genus of which *Ent. coli* is the type.

Opinion 99 declares that those of us who think that the species *coli* and similar forms do not belong in the same genus as *blattae* cannot use the name *Entamoeba* for that different genus. There are two grounds upon which that declaration is based. One of them is that *Entamoeba* is a homonym of *Endamoeba*—that the two words are not sufficiently different from one another in orthography to be usable as separate words. The other is that *Entamoeba* has the same type species as *Endamoeba*, and therefore falls as a synonym. The latter decision is the only one given in the summary of *Opinion* 99; it is not necessary that it should be rendered after the generic name has been dismissed as a homonym, so evidently it is intended to provide a reserve in case of doubt.

That doubt certainly exists (Dobell, 1938). Obviously we are not here concerned with whether the words have the same meaning or not, but with whether one word is the same word as the other. There is a difference between inadvertent interchange of two names that have a status in zoological nomenclature, and the use synonymously of such words as endoplasm and entoplasm or endoderm and entoderm. There is nothing in the articles of the International Rules of Zoological Nomenclature that justifies the conclusion that *Entamoeba* must be rejected as a homonym. Certainly Chatton's statement, although cited as authoritative by Stiles, does not constitute justification; it is merely an assertion in a one-line footnote, unsupported by reference to the Rules or anything else. It is only in the argument for *Opinion* 99 that evidence is given, but that evidence can as well be read in support of the retention of the two names as different. Jordan's report in the *Opinion* states that they come in the category of names of which the spelling in Latin varied to a slight extent and which the Rules of Nomenclature do not accept as different. His reference is to Article 35, in which precise differences are given by which specific names of the same origin and meaning are insufficiently distinguished. There seems to be no indication that Article 35 is intended to establish a general category allowing interpretation of other differences than those specified; and in that Article there is nothing whatever about the sort of difference that exists between the words *Endamoeba* and *Entamoeba*. Furthermore, there is evidence in *Opinion* 99 itself that the two words are not necessarily of the same origin, and that would exclude them from consideration under the rules given in Article 35.

Article 35 deals only with specific names, and it might seem possible that a different interpretation for generic names would be allowed. Now, however, a precise statement concerning differences in generic names has been given (*Opinion* 147, 1943). A generic name of the same origin and meaning as a previously published generic name is to be rejected as a homonym of the said name if it is distinguished therefrom only by certain specified differences which are the same as the ones given for specific names in Article 35. *Opinion* 99 was not mentioned by the Commission in the rendering of *Opinion* 147, although it dealt with the subject that was being considered.

It is not possible to find any definite reason in the Code, or any valid evidence in *Opinion* 99, for rejection of *Entamoeba* as a homonym ; but the recommendation in Article 36 can, as Taliaferro remarked, be evoked in support of retention of both names. These facts have already been discussed by Dobell (1938).

In *Opinion* 99 the consideration that is apparently regarded as the more important one, since it alone is given in the summary, is that of synonymy—that *Entamoeba* C. & B. is an absolute synonym (or objective synonym, Stiles and Boeck, 1923, p. 135) of *Endamoeba* Leidy, because the names follow their types, and the same species, *E. blattae*, is the type of each. When Stiles presented the case so as to arrive at this conclusion, he changed his approach to the matter. In 1923 he evidently regarded *Entamoeba* as a homonym, in 1925 he designated it as a subjective synonym on the basis of the taxonomic assignment of its species, but in both papers he accepted *E. hominis*=*coli* as type of *Entamoeba* C. & B. by subsequent designation by Brumpt, 1913. In *Opinion* 99, after stating that Brumpt's action was the first type designation in words, Stiles found it possible to interpret Chatton, 1912, as having designated *blattae* as type of *Entamoeba* C. & B. Stiles did not make clear the reason for this interpretation, except in that he cited *Opinion* 6 in support of it.

Entamoeba C. & B., 1895, is analogous to the hypothetical Genus *A* Linnaeus, 1758, in *Opinion* 6, in that when proposed it contained two species, which we now know as *coli* and *blattae*. Casagrandi and Barbagallo did not indicate which was the type. *Opinion* 6 declares that when an author has removed one of the two species to another monotypic genus, leaving only one species in the first genus, he is to be construed as having fixed the type of the first genus. Jordan's report in *Opinion* 99 follows the parallel exactly, crediting Chatton with having removed *coli* from *Entamoeba* C. & B. to the genus *Löschia*, thereby leaving *blattae* as the type of *Entamoeba*. If that is so, there is probably no doubt about the validity of the conclusion ; but I think it is not true that that Chatton really dealt with *Entamoeba* C. & B. in making the supposed division.

In every place in the three papers that Chatton wrote *Entamoeba* Leidy he was simply making a mistake for *Endamoeba* Leidy. Other authors before him who included *blattae*, with or without other amoebae, in *Entamoeba* C. & B. were also making a simple error ; they should have used *Endamoeba* Leidy. The acts of Chatton and Lalung-Bonnaire were on *Endamoeba* Leidy, given by mistake as *Entamoeba* Leidy, but not corresponding to *Entamoeba* C. & B. Chatton (1910) grouped various amoebae in this " *Entamoeba* Leidy." Chatton and Lalung-Bonnaire (1912) did not agree with that grouping, and removed *coli* and other species from it, leaving only *blattae*. That made no change in the situation, except to restore it as it was originally. The revision was of the group concept authors had held of "*Entamoeba* Leidy" =*Endamoeba* Leidy, not of that genus itself, which was already attached to its type species.

The synonym argument in *Opinion* 99 depends upon crediting Chatton and Lalung-Bonnaire or Chatton with having comprehended *Entamoeba* C. & B. in what they did with "*Entamoeba* Leidy"=*Endamoeba* Leidy. Stiles' paragraph "d" in the argument, puts it: "Chatton's paper (1912, *Bull. Zool. France*, p. 113) is to be interpreted as designating *blattae* as type of "*Entamoeba*" 1897(=1895) [emendation of *Endamoeba*, but obviously construed as identical with *Entamoeba*]." (Chatton and Lalung-Bonnaire had priority in this matter, and the page reference is wrong.) But Chatton's "emendation of" (rather, error for) *Endamoeba* was "*Entamoeba* Leidy," not "*Entamoeba* 1897 (=1895)"; *Entamoeba* C. & B., 1895, was not an emendation, but a separately proposed word. Stiles' word "obviously" could have reference only to Chatton's opinion (1912) that the two words are orthographic variants, and therefore identical. Thus we return to the question of whether or not it is to be admitted that *Entamoeba* is a homonym of *Endamoeba*; and in consequence it appears to me that the whole argument of *Opinion* 99 stands or falls with the decision about the homonym question, in spite of the fact that the summary neglects that decision.

The summary of *Opinion* 99 presents the nomenclatorial treatment accorded *Entamoeba* C. & B. by Brumpt in 1913 as opposed to and invalidated by the prior treatment of that genus in the 1912 paper. On the contrary, however, it seems that Chatton and Brumpt had then exactly the same understanding of Casagrandi and Barbagallo's genus. In the historical account given above in 1897 Casagrandi and Barbagallo applied the name *Entamoeba* to intestinal amoebae of vertebrates, and the statement by Chatton (1912, p. 111) that those authors applied the name to a human amoeba. Those are the only references in the 1912 papers to the correct and original use of *Entamoeba*. Brumpt, who in 1913 wrote "*Entamoeba* Leidy," had adopted the nomenclature of amoebae used by Chatton in 1910. In the footnote that was accepted by Stiles as constituting the type designation he simply gave a different wording of what the 1912 authors had pointed out regarding the amoeba for which the genus *Entamoeba* C. & B. had been proposed; but in that wording, and in printing the name "*E. hominis* synonyme de *E. coli*" he was more specific. Brumpt has more recently used both *Endamoeba* and *Entamoeba*; and it is likely that the 1912 authors would have used Casagrandi and Barbagallo's name for the species *coli* and other amoebae of vertebrates instead of *Löschia* except for the fact that they considered *Endamoeba* and *Entamoeba* to be orthographic variants. Despite the fact that Chatton and Brumpt evidently had the same understanding of *Entamoeba* C. & B., Stiles found it possible to give the interpretation that Chatton had designated *blattae* as its type before Brumpt designated *coli* as its type. Yet the only difference in the treatment the two authors gave the genus is that the former did not print the species name, whereas the latter did so. Brumpt, therefore, was not considered to have comprehended *Entamoeba* C. & B. in "*Entamoeba* Leidy," as regards type designation, whereas Chatton was considered to have done so. The interpretation given in this part of the argument in *Opinion* 99 is obviously greatly strained.

CONCLUSION

Opinion 99 of the International Commission on Zoological Nomenclature does not constitute proof that *Entamoeba* Casagrandi and Barbagallo, 1895, cannot be used as a generic name. Its argument rests on two points : that *Entamoeba* is a homonym of *Endamoeba ;* and that *blattae* is the type species of both, so that *Entamoeba* falls also as a synonym of *Endamoeba* Leidy, 1879. The latter point, which is the only one brought out in the summary of *Opinion* 99, is not acceptable : it rests on the interpretation that *Entamoeba* is a homonym of the earlier name. The *Opinion* asserts, but does not demonstrate, that it is a homonym ; and there is nothing elsewhere in the Rules or *Opinions* that warrants the assertion. It is appropriate to place the species *coli* and *blattae* in separate genera ; and it is considered that *Entamoeba* Casagrandi and Barbagallo, 1895, is available as a generic name for *coli* and congeneric species at the same time that *Endamoeba* Leidy, 1879, is used for *blattae* and congeneric species.

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ON THE PROBLEMS EMBRACED IN "OPINION" 99 (RELATING TO THE NAMES "ENDAMOEBA" LEIDY, 1879, AND "ENTAMOEBA" CASAGRANDI & BARBAGALLO, 1895) RENDERED BY THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

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(Commission's reference Z.N.(S.)185)

I. Introduction.

Recently Professor Harold Kirby (1945) has written an able critique of the decisions embodied in *Opinion* 99 rendered by the International Commission on Zoological Nomenclature (1928). He has concluded that, contrary to certain of these decisions (1) *Entamoeba* Casagrandi and Barbagallo, 1895, cannot be regarded as a homonym of *Endamoeba* Leidy, 1879; and (2) the species with the trivial name *blattae* of Bütschli (1878) should not, despite the conclusions embodied in *Opinion* 99, be regarded as the type species of both genera, but only of *Endamoeba* Leidy, 1879.

2. I endorse Kirby's thesis wholeheartedly, but I should like to restate the problem in order to emphasize what I consider to be certain fallacies in *Opinion* 99, which are not altogether covered by Kirby, and to make certain further proposals. *Opinion* 99 is a remarkable collection of contradictions and apparent misinterpretations of the *Règles* and certain preceding *Opinions*, as I am prepared to show here.

3. Originally a draft of the present paper was submitted to Mr. Francis Hemming, Secretary of the International Commission, in 1946. Subsequently the author visited Mr. Hemming in August, 1948, and it was agreed between them that, in view of the extensive changes that the Thirteenth International Congress of Zoology, acting on the advice of the International Commission, brought about in the *Règles Internationales de la Nomenclature Zoologique* at the Paris Meetings of July, 1948, the paper should be examined in the light of any pertinent new decisions, revised, and submitted again. I have delayed doing this in anticipation of the publication of the "Official Records of Proceedings of the International Commission on Zoological Nomenclature at their Session, held in Paris in July, 1948." Now that this has been done in Volume 4 of *The Bulletin of Zoological Nomenclature*, I have been able to redraft the present paper and am resubmitting it herewith.

4. One of the decisions taken by the International Commission at Paris was that *Opinion* 99 was to be considered *sub judice* and that specialists were to be invited "to communicate to the Commission their views on the action to be taken by way of confirming, modifying or reversing the decisions recorded in [the *Opinion*]" (see 1950, *Bull. zool. Nomencl.* **4**: 337–338). This was done on the basis of the recognition by the Secretary to the International Commission that *Opinion* 99 was " very poor " and should be reconsidered (see 1950, *Bull. zool. Nomencl.* **3** : 128). It is, therefore, particularly appropriate that the present paper be tendered for publication.

5. Moreover, it will be evident from the ensuing sections of this paper that it is of vital importance to the stability of the names of certain genera and species of amoebae parasitic in Man and other animals, that the International Commission not only revise *Opinion* 99, but consider such additional problems not originally raised therein as must be solved in order to give permanancy to the names of these parasites. This will require the exercise of the plenary powers to secure certain names and the placing of these and other names in the " Official List of Generic Names in Zoology," and the " Official List of Specific Trivial Names in Zoology," as provided for at Paris (see 1950, *Bull. zool. Nomencl.* **4** : 267–271, 333–335).

6. To aid both in the revision of *Opinion* 99 and in the realization of stability for the names applied to important enteric amoebae, the present paper is organized into several sections : (I) the present introduction ; (II) the historical background of *Opinion* 99 ; (III) and (IV) analyses of the summary and body, respectively, of *Opinion* 99 ; (V) the status of the trivial names *coli* of Grassi (1879) and *histolytica* of Schaudinn (1903) as applied to certain amoebae of Man ; and (VI) the status of the generic names *Endamoeba* Leidy, 1879, *Entamoeba* Casagrandi and Barbagallo, 1895, and certain others applied to enteric amoebae. Finally, in section (VII) are summarized the conclusions drawn from the studies of the preceding sections.

II. Historical Background of " Opinion " 99.

7. *Opinion* 99 is entitled " *Endamoeba* Leidy, 1879, vs. *Entamoeba* Casagrandi and Barbagallo, 1895." Its summary reads as follows : " *Entamoeba* 1895, with *blattae* as type by subsequent (1912) designation, is absolute synonym of *Endamoeba* Leidy, 1879a, p. 300, type *blattae*, and invalidates *Entamoeba* 1895, type by subsequent (1913) designation *hominis*=*coli*."

8. To recapitulate briefly, the following are the principal historical facts* of the case treated by *Opinion* 99, many of which were not, however, considered in the *Opinion* :

(i) Lösch (1875) described in detail the clinical picture and lesions resulting from an amoebic infection in the large bowel of a young Russian and also provided a description (pp. 203–207) and figures (Pl. x, figs. 1–3), of the causative organism from which it is quite evident that he was dealing with the species now generally called *Entamoeba*, or *Endamoeba*, *histolytica*. To this form he gave the name *Amoeba coli* (: 208).

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* For a more detailed history the excellent monograph by Dobell (1919) should be consulted—also the less lucid, although more exhaustive, survey of Stiles and Boeck (1923).

(ii) Bütschli (1878 : 273–277) described a new species, *Amoeba blattae*, from the gut of the oriental roach, *Blatta orientalis* Linnaeus, 1758—an insect still known by that name.

(iii) Grassi (1879) described amoebae from human faeces and identified them (p. 445) as representing the same species as observed by Lösch (1875). However, in the opinion of Dobell (1919) Grassi dealt primarily with the species now generally known as *Entamoeba*, or *Endamoeba*, *coli*, although some individuals, at least, of *E. histolytica* were apparently also seen.

(iv) Leidy (1879 : 300) formed the new genus *Endamoeba* for the single species, hence type species (by monotypy : Article 30(c) of the current *Règles*[†]) *Amoeba blattae* Bütschli, 1878.

(v) Casagrandi and Barbagallo (1895 : 18) in a study of an intestinal amoeba of Man, which they called "*Amoeba coli* Lösch," erected a new genus *Entamoeba* in apparent ignorance of the existence of the name of *Endamoeba*[**] Leidy, 1879. In it they placed "*Amoeba coli* (Lösch)" and "*Amoeba blattarum* (Bütschli)" ["*Amoeba blattae* Bütschli, 1878]. No type species was designated. It is evident from their paper that these authors were dealing not with Lösch's *Amoeba coli*, but with Grassi's—the species today known generally as *E. coli*. They did not themselves form the combination *Entamoeba coli*, although it is credited to them by Dobell (1919) ; actually this was later done by Schaudinn (1903). In a subsequent paper they (Casagrandi and Barbagallo, 1897 : 103) renamed this species *Entamoeba hominis*.

(vi) Schaudinn (1903) was responsible for fixing the usage of the trivial names now almost universally employed for the two species of amoebae in humans, originally designated *Amoeba coli* by Lösch (1875) and *Amoeba coli* by Grassi (1879)—what may aptly be termed the dysenteric and large nondysenteric amoebae of Man, respectively. As Dobell (1919) has pointed out, by far the happiest solution would have been for Schaudinn to accept Lösch's name for the dysenteric species, as would have been correct, and, in view of the fact that Grassi's name was a homonym of Lösch's, to take the next available name, *Entamoeba hominis* Casagrandi and Barbagallo, 1897, for the nondysenteric species. His observations on morphology as well as nomenclature were on several counts erroneous and have been severely and justifiably criticized by Dobell. His nomenclatorial conclusions were that the nondysenteric species should be called " *Entamoeba coli* Lösch emend. Schaudinn " (:564) and that the dysenteric species should be given a new name, for which he proposed " *Entamoeba histolytica* " (:564, 570). In so doing, he accepted the genus *Entamoeba* Casagrandi and Barbagallo, 1895, for both species. Schaudinn's prestige was such that his determinations became entrenched in the literature, and to-day the trivial names, at least, dominate all fields concerned with amoebae in Man.

[†] The most recent presumably official edition of the *Règles* appeared in 1929 in the publication of the X [1927] International Congress of Zoology at Budapest (Int. Comm. Zool. Nomencl-1929). A new official edition is now in preparation based on extensive changes adopted by the XIII International Congress of Zoology at its Paris Meeting in 1948, acting on the advice of the International Commission on Zoological Nomenclature.

[**] In base a tutti questi dati, anzi, riteniamo necessario tornare sulla classifica delle *Amebe*, stabilendone un nuovo genere, che proponiamo di chiamare *Entamoeba* e vi collochiamo subito l'*Amoeba coli* (Lösch), e l'*Amoeba blattarum* (Bütschli).

(vii) Lühe (1909 : 421) erected the new genus *Poneramoeba* for the single species, *Entamoeba histolytica* Schaudinn, 1903, from Man ; this he specifically designated as the type species of his new genus. It was the next new genus after *Entamoeba* Casagrandi and Barbagallo, 1895, erected or used for amoebae in the vertebrate digestive tract.

(viii) Chatton (1910 : 282–284) placed in a genus " *Entamoeba* Leidy (1879) " seven supposed species. " *Entamoeba coli* (Lösch) 1875 " [=*Amoeba coli* Grassi, 1879], " *E. blattae* (Bütschli) 1878 " ; " *E. ranarum* (Grassi) 1881 " " *E. muris* (Grassi) 1881 " ; *E. buccalis* Prowazek, 1904 ; *E. histolytica* Schaudin, 1903 ; and " *E. tetragena* Viereck 1906=*E. africana* Hartmann 1908 " [=*E. histolytica*]. The only mention of Casagrandi and Barbagallo's work appearing in Chatton's paper was in a footnote to the effect that " *Entamoeba* " had been incorrectly assigned by Doflein (1909) to the authorship of the Italian workers.* Chatton did not cite any species as the type species of his " *Entamoeba*." nor did he mention the spelling " *Endamoeba* " used by Leidy.

(ix) Chatton and Lalung-Bonnaire (1912 : 142) removed the amoebae of the digestive tract of vertebrates from the genus " *Entamoeba* Leidy " into a new genus *Löschia*, stating that only the species. originally called *Amoeba blattae* by Bütschli (1878) should remain in Leidy's genus. To *Löschia* they transferred the following four species from *Entamoeba :* " *E. coli* Lösch " [=Grassi], " *E. tetragena* Viereck " [=*histolytica* Schaudinn], " *E. ranarum* Grassi," and " *E. muris* Grassi," and for the forms with a *tetragena*-[=*histolytica*–] like nuclear picture they raised a new subgenus *Viereckia*) " *E. coli* Lösch " was designated as the type species of the nominotypical subgenus, hence of the genus, *Löschia*.* They incorrectly claimed that Casagrandi and Barbagallo (1897) had applied Leidy's genus to the amoebae of the vertebrate digestive tract.†

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* C'est à tort que Doflein (1910 [=1909]) attribue la paternité du genre *Entamoeba* à Casagrandi et Barbagallo (1897 [*sic*]).

(x) Chatton (1912 : 111) republished the conclusions already expressed in his paper with Lalung-Bonnaire, but mentioned only "*Löschia coli*" and "*Viereckia tetragena*" in the genus *Löschia*. For the first time he mentioned—in a footnote—the spelling *Endamoeba*,** but dismissed it as an orthographic variant.

(xi) Brumpt (1913 : 25) referred the amoebae of Man to the genus "*Entamoeba* Leidy, 1879." He also stated—in a footnote—that the same genus had been created in "1897" by Casagrandi and Barbagallo for†† "*E. coli*."

(xii) Crawley (1913 : 185) listed "*Entamoeba histolytica* Schaudinn, 1903" as the type species of the genus *Entamoeba*.

(xiii) Dobell (1919 : 17–19) in a scholarly review of the nomenclature of the amoebae in Man accepted as valid for amoebae of the vertebrate digestive tract the genus *Entamoeba* Casagrandi and Barbagallo, 1895 (*non Endamoeba* Leidy, 1879), formally (: 18) selected as its type species "*E. coli*," and included as congeneric with *E. coli* the species *E. histolytica*, among others. He confined the genus *Endamoeba* Leidy, 1879, to *Amoeba blattae* Bütschli, 1878. In later parts of his paper he reviewed in detail the nomenclatorial history of the species to-day generally known by the trivial names *coli* and *histolytica*.

(xiv) Stiles and Boeck (1923 : 121–150) exhaustively discussed the nomenclature of the dysenteric and nondysenteric amoebae of Man and dismissed (: 124) *Entamoeba* Casagrandi and Barbagallo, 1895, as a homonym‡ of *Endamoeba* Leidy, 1879. Nevertheless they regarded Brumpt (1913) as having fixed the type species of the former as *Entamoeba hominis* [=*Amoeba coli* Grassi, 1879], and they also recognized a separate nominal genus *Entamoeba* Chatton,

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* On pourra même distinguer subgénériquement les Entamibes à 4 noyaux (type *tetragena*), des Entamibes à 8 noyaux (type *coli*), sous le nom de *Viereckia n. subgen.*

† C'est Leidy qui a créé le genre *Entamoeba* pour l'amibe de la Blatte, et ce n'est qu'en 1897 que Casagrandi et Barbagallo l'ont appliquée aux amibes intestinales des Vertebrés.

** Avec la variante orthographique *Endamoeba* qui ne peut en aucune façon constituer un prétexte à conserver les deux noms simultanément.

†† Ce même genre a été créé de nouveau en 1897 par Casagrandi et Barbagallo pour leur *E. hominis*, synonyme de *E. coli*.

‡ [*Entamoeba* 1895 is not available because of *Endamoeba* 1879.]

1912 (overlooking Chatton's 1910 paper and not recognizing the priority of Chatton and Lalung-Bonnaire's paper) as an emendation of *Endamoeba* Leidy, 1879, consequently with the same type species, *Amoeba blattae* Bütschli, 1878. They provisionally regarded *Amoeba blattae* Bütschli, 1878 (type species of *Endamoeba* Leidy, 1879—by monotypy), and *Entamoeba hominis* Casagrandi and Barbagallo, 1897 [=*Amoeba coli* Grassi, 1879] as congeneric. The foregoing conclusions were essentially followed by Stiles and Hassall (1925), except that they listed *Entamoeba* Casagrandi and Barbagallo, 1895, as a synonym rather than a homonym of *Endamoeba* Leidy, 1879.

(xv) The International Commission on Zoological Nomenclature in *Opinion* 95 (1926) placed *Endamoeba* Leidy, 1879, with type species *Amoeba blattae* Bütschli, 1879 (by monotypy) on the "Official List of Generic Names in Zoology." Later the International Commission (1928) reviewed some of the facts given here under paragraphs (i) to (xiv), and published *Opinion* 99. After much indecisive discussion it was finally concluded in the summary of the latter *Opinion*, that Chatton (1912) had selected a type species for "*Entamoeba* 1895," when he transferred *Entamoeba coli* and other species in vertebrates to the genus *Löschia* and thus left only *Entamoeba blattae* in the genus *Entamoeba*. This conclusion was presumably based on *Opinion* 6, which was invoked in the body of the *Opinion*. Obviously, it was not questioned whether Chatton actually was dealing with *Entamoeba* Casagrandi and Barbagallo, 1895, when he supposedly fixed its type species.

9. I proposed herein to analyze in detail in Sections III and IV, on the summary and body of *Opinion* 99 respectively, the question of the selection of a type species for the genus *Entamoeba* Casagrandi and Barbagallo, 1895, and to show that from the historical facts it must be concluded that no one actually selected its type before Dobell (1919).

III. Analysis of the Summary of "Opinion" 99.

10. First of all it can be shown that the summary of the *Opinion* itself cannot be supported by the *Règles* and previous *Opinions*. The crux of this summary is based upon one point in the general conclusions of the body of the *Opinion*, and in the report by Commissioner K. Jordan, which appears at the end of the discussion on the *Opinion* and was unanimously adopted by the Commissioners present at the Tenth International Congress of Zoology in Budapest, 1927. In this summary, as one can read in the quotation thereof already given, appears the following phrase: "*Entamoeba* 1895, with *blattae* as type by subsequent designation (1912)." This is presumably based on the following statement in Jordan's report (: 8, under "A. Nomenclatorial Considerations "): "In 1912 Chatton separated from *Entamoeba* the species *coli* as genotype of his new genus *Löschia*, leaving *blattae* as only species in *Entamoeba*. As nobody had dealt, nomenclatorially, with *Entamoeba* prior to 1912, Chatton's action made *blattae* the type of *Entamoeba*." Actually Chatton and Lalung-Bonnaire (1912) were the first to do this ; Chatton (1912) merely reaffirmed their earlier action.

11. Now the foregoing quotation is an important statement as it suggests that a species may become the "type by elimination." Yet in the present *Règles* (Article 30(k)) the designation of "type by elimination" is only one of a number of non-mandatory *Recommandations*. It is true that under one limited condition the *Opinions* have established that elimination may fix a type species. Thus in *Opinion* 6* (Int. Comm. Zool. Nomencl., 1910, 1944b), the summary reads (in its most recent form—1944b) : "When, in the case of a generic name published not later than 31st December, 1930, a later author divided the genus '*A*——', species '*A*—— *b*——' and '*A*—— *c*——', leaving genus '*A*——', only species '*A*—— *b*——', and genus '*C*——', monotypic with species '*C*—— *c*——', the second author is to be construed as having fixed the type of the genus '*A*——'." But, as pointed out by Mr. Francis Hemming, Secretary to the Commission, in his editorial notes on the new edition of *Opinion* 6 (1944b : 134–135), the above summary is explicit in limiting its jurisdiction to the case where the original genus "*A*——" has two species and two species only, and the second genus "*C*——" is monotypic.†

12. Let us suppose then, for the sake of argument, that Chatton and Lalung-Bonnaire (1912) comprehended *Entamoeba* Casagrandi and Barbagallo, 1895, when they transferred species from "*Entamoeba*" to *Löschia*. In this light one finds that *Entamoeba* Casagrandi and Barbagallo, 1895, qualifies as genus "*A*——" in the sense of *Opinion* 6—with two species "*Amoeba coli*" and "*Amoeba blattarum*." However, Chatton and Lalung-Bonnaire's genus

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* Now cancelled, except for historical purposes, and its decision incorporated into the *Règles* (see 1950, *Bull. zool. Nomencl.*, **4** : 157, 165–166).

† Prior to the Congress of 1948, not all workers agreed with Mr. Hemming that *Opinion* 6 need be so narrowly interpreted. Thus Sabrosky (1947) analyzed the body of the *Opinion* and pointed out that in paragraph 2 the statement was made that "cases which were as clear as the one given in the diagram [*i.e.*, the scheme presented in the summary] should be construed under Article 30(g), namely, that the type of the original genus was fixed when, through a division of its species, it was definitely made into a monotypic genus." It was Sabrosky's contention on the basis of this statement that a genus "*A*———" need not have two species in order to come under the jurisdiction of *Opinion* 6, so long as all but one species have been removed by some subsequent worker, thus leaving "*A*———" monotypic. Sabrosky's interpretation is a reasonable one. However, the summary of *Opinion* 6, as it stands, conveys no such flexibility of interpretation and must, it seems to me, be the principal arbiter of the point. Moreover, the International Commission at Paris recommended in its report, which was accepted by the Thirteenth International Congress, *inter alia*, the insertion in Article 30, Rule (g), of words to convey the substance of the summary of *Opinion* 6, *i.e.*, only the limited interpretation thereof (see 1950, *Bull. zool. Nomencl.* **4** : 157) ; moreover, *Opinion* 6 has now been cancelled for interpretative purposes (see Footnote 10).

" *C*—— " in the sense of *Opinion* 6 would be *Löschia*, which emphatically was not monotypic. The vital point here is that it was formed for four species in two subgenera : *Löschia* and *Viereckia*.

13. It may be claimed that, in effect, *Opinion* 99 established a new precedent and extended the application of selection of " type by elimination " beyond *Opinion* 6. But it does not appear that such was the intention of Commissioner Jordan or of Secretary Stiles. Actually they were merely invoking *Opinion* 6 as the following quotations from the body of the discussion on the *Opinion* indicates : (p. 6, ¶ 3) " . . . . accordingly, for Chatton *Endamoeba* 1879 and *Entamoeba* 1897 were simple orthographic variants and it is not at all impossible (renaming and *cf. Opinion* 6) " [italics mine—E. C. D.] " to construe his papers (1910, 282, and 1912, 110) as a designation of *blattae* as type of *Entamoeba* Casagrandi and Barbagallo, 1897 " ; (P. 7, ¶ 2 (d)) " since (under *Opinion* 6) Chatton's paper (1912, *Bull. Soc. zool. France :* 113) is to be interpreted as designating *blattae* as type of " *Entamoeba* " 1897 (=1895), [emendation of *Endamoeba*, but obviously construed as identical with *Entamoeba*] . . ." But *Opinion* 6, as it is now understood, does not apply here. It is clear that the Commission based the most vital part in the summary of *Opinion* 99 on an invocation of a previous ruling, which at the time was, at best, of questionable application and must now be regarded as erroneously applied (see footnote 11).

IV. Analysis of the Body of " Opinion " 99.

14. Since it has been demonstrated that the summary of *Opinion* 99 and in effect its conclusions are based on false premises, it would be well to examine the other points discussed in the body of *Opinion* 99 and to analyze the historical facts to determine why, as I consider, (1) no other and justifiable grounds exist for an equivalent decision—namely, that of the type *Entamoeba* Casagrandi and Barbagallo, 1895, was fixed as *Amoeba blattae* Bütschli, 1878 ; and (2) why a type selection was not made until Dobell's work (1919).

15. Dobell (1938) has published a critique of *Opinion* 99 in which he has pointed out certain fundamental inconsistencies in the presentation and body of the *Opinion*, but has not considered all of the basic nomenclatorial issues involved. Kirby (1945)[1] has aired most of the fallacies of the *Opinion*. My analysis is partly an extension of his, with additional observations on applications of certain provisions of the *Règles* and *Opinions*. Dobell's works (1919, 1938) have been indispensable for their complete accounts of the history and zoology of the enteric amoebae of Man.

16. There are three principal statements or assumptions in the body of *Opinion* 99 that deserve attention. These may be summarized as follows :—

(i) The point, not brought out in the " Summary," but nevertheless expressed by Secretary Stiles in several places in his discussion—that *Entamoeba* is a virtual homonym of *Endamoeba*. This was summarised by Commissioner K. Jordan under " Philological Considerations " (: 8) as follows : " In zoology the prefixes *Ento*— and *Endo*— are frequently interchanged. In zoological terminology they are located as being identical. They come under the category of names of which the spelling in Latin varied to a slight extent and which the Rules of Nomenclature do not accept as different, such as *auctumnalis* and *autumnalis* . . . *Entamoeba* is philologically the same as *Endamoeba*." Despite this conclusion, the body of the discussion (: 5, ¶ 4) contains evidence that the prefixes *endo*— and *ento*— can be regarded as of different Greek origin (from ἔνδον and ἐντός respectively).

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[1] See pp. 130 — 139 of the present volume, where Professor Kirby's paper is reprinted.

(ii) The point that Chatton's emendation *Entamoeba* (1910) of Leidy's *Endamoeba* (1875) automatically takes the same type, *Amoeba blattae* (: 6, ¶ 2). " *Endamoeba* Leidy, 1879a, p. 300, has for its monotype *Amoeba blattae*. The generic name was emended by Chatton, 1910, Ann. Zool. exp. gén., 282, and 1912, Bull. Soc. Zool. France, p. 110, to read *Entamoeba*, and by Chatton and Lalung, 1912, BSPe, p. 142, in the same sense. Accordingly, there is a generic name *Endamoeba* and one *Entamoeba* with the same species (*E. blattae*) as type."

(iii) The point that Brumpt (1913) among others may be regarded as having selected the type species of *Entamoeba* Casagrandi and Barbagallo, 1895 (: 6, ¶ 2). " . . . The first type designation in words was by Brumpt (1913, p. 21) as *Entamoeba hominis* which is *Amoeba coli* renamed."

17. Of these three points the first has been demonstrated to be incorrect by Dobell (1938) and Kirby (1945) ; the second is demonstrably true ; and the third is equivocal. All three are taken up in order in the following three sub-sections ((a) to (c)).

(a) Orthographic independence of *Endamoeba* and *Entamoeba*.

18. As Dobell (1938) pointed out, the *Règles* themselves provide a basis for accepting both *Endamoeba* and *Entamoeba*. Article 34 states that " a generic name is to be rejected as a homonym when it has previously been used for some other genus of animals." In connection with rejection of such names as homonyms, Article 36 contains the following recommendation : " It is well to avoid the introduction of new generic names which differ from generic names already in use only in termination or in a slight variation in spelling. But when once introduced, such names are not to be rejected on this account. Examples : *Picus*, *Pica*. . . ."

19. But, if one may question the legal force of a " Recommendation," then *Opinion* 147* (Int. Comm. Zool. Nomencl., 1943), as Kirby (1945) has pointed out, specifically delimits the categories of spellings that render generic names homonyms, to those differing by : (1) the use of " ae," " oe," and " e " ; the use of " ei," " i," and " y " ; or the use of " c " and " k " ; (2) the aspiration or non-aspiration of a consonant ; (3) the presence or absence of a " c " before a " t " ; and (4) the use of a single or double consonant. The difference between the prefixes *Endo*— and *Ento*— thus lies outside of the limits imposed by *Opinion* 147.

(b) Selection of type species for *Entamoeba* Chatton, 1910.

20. Kirby has pointed out that Chatton (1910) referred to the genus *Endamoeba* Leidy, 1879, as " *Entamoeba* Leidy." As used by Chatton, it included, as already noted, the type species of Leidy's genus, *Amoeba blattae* Bütschli, 1878, and a number of other species, among them " *Amoeba coli* Lösch" [=*Amoeba coli* Grassi, 1879]. I believe that Chatton unintentionally changed the spelling of Leidy's genus, thus in effect creating a new name for it, which should be termed *Entamoeba* Chatton, 1910. (No previous author spelled Leidy's genus in this way, Schaudinn (1903) and others that used the spelling *Entamoeba* having credited it to Casagrandi and Barbagallo.) Stiles and Boeck (1923 : 123) must have come essentially to the same conclusion when they recognised both *Entamoeba* Casagrandi and Barbagallo, 1895, and *Entamoeba* Chatton, 1912 [=1910]. Their action supports my contention that Chatton thus was actually not dealing with the genus *Entamoeba* Casagrandi and Barbagallo, 1895, his only reference to the latter being in error—namely, that " *Entamoeba* " should be credited to Leidy, not to the Italian workers. *Entamoeba* Chatton, 1910, is a homonym of *Entamoeba* Casagrandi and Barbagallo, 1895 ; but there is no basis for assuming them to be objective synonyms, as the writers of *Opinion* 99 appear to have believed, inasmuch as the type species of the latter genus had not then been determined.

21. We thus actually have three nominal genera : *Entamoeba* Leidy, 1879 (monotypic), *Entamoeba* Casagrandi and Barbagallo, 1895 (2 species), and *Entamoeba* Chatton, 1910 (7 species, including those in the second genus). As Kirby has maintained, the consequence of any action by Chatton (1910, 1912) and Chatton and Lalung-Bonnaire (1912) should affect only the genus with which Chatton originally dealt—which I call *Entamoeba* Chatton, 1910 (=*Endamoeba* Leidy, 1879, emended). This principle was expressly recognized by the Paris Congress of 1948 and is now to be incorporated in the *Règles* (see 1950, *Bull. zool. Nomencl.* **4** : 347–348).

22. I wish now to take up the second point raised by the body of *Opinion* 99, namely, whether Chatton (1910) can be construed as having fixed the type of *Entamoeba* Chatton, 1910. In this connection Article 30 (f) is involved.

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* Cancelled, except for historical purposes, and part of its decision to be incorporated into the *Règles* (see 1950, *Bull. zool. Nomencl.*, **4** : 161–162, 165–166).

23. Article 30 Rule (f) states that "in case a generic name without originally designated type is proposed as a substitute for another generic name, with or without type, the type of either, when established, becomes *ipso facto* type of the other." Inasmuch as *Entamoeba* Chatton, 1910, is in effect a substitute for *Endamoeba* Leidy, 1879, it follows that *blattae*, type of the earlier genus by monotypy, automatically becomes type of the latter genus. Therefore, it is difficult to understand why the Commission, in the summary of *Opinion* 99, did not rely on this rule to establish the type species of *Entamoeba* of Chatton (1910) instead of invoking *Opinion* 6, which was not clearly applicable. Actually, Rule (f) in Article 30 has certain difficulties of application to which I hope to draw the attention of the Commission in a separate communication. Possibly it is on the basis of these difficulties that the Commissioners failed to invoke it in the summary of *Opinion* 99. In any event, the application of this rule seems straightforward in the case under consideration.

(c) Selection of a type species for *Entamoeba* Casagrandi and Barbagallo, 1895.

24. We can now examine the third point raised by the body of *Opinion* 99, namely, that Brumpt (1913) may be regarded as having made a statement that, were it not for Chatton's earlier action (1912), would have had the effect of selecting a type species for *Entamoeba* Casagrandi and Barbagallo, 1895. In this connection it also is desirable to determine when such a selection was validly made and also to explore further the consequences of Chatton's treatment of his genus *Entamoeba* (=*Endamoeba* Leidy, 1879). Aside from *Opinion* 6, which has already been shown to be inapplicable, one article in the *Règles* and two *Opinions* are intimately involved in these problems—namely, Article 30 and *Opinions* 45 and 164.

25. Brumpt (1913), as already stated, made the following statement (in translation; for original see footnote 8): "This same genus" [as *Entamoeba* Chatton, 1910=*Endamoeba* Leidy, 1879] "was created *de novo* in 1897 by Casagrandi and Barbagallo for their *E. hominis*, synonym of *E. coli*." It was on this basis that Stiles and Boeck (1923), Stiles and Hassall (1925), and the Commission (in *Opinion* 99) concluded that what Brumpt's statement amounted to was a potential selection of a type species for *Entamoeba* Casagrandi and Barbagallo, 1895.

26. I feel that this position is inconsistent with the *Règles* and with the previously rendered *Opinion* 45 (Int. Comm. Zool. Nomencl., 1912).

27. Article 30, which deals with the designation, indication, and selection of type species of genera, contains a paragraph following paragraph (g) which reads as follows: "The meaning of the expression 'select the type' is to be rigidly construed. Mention of a species as an illustration or example of a genus does not constitute a selection of type." Several *Opinions* have been rendered specifically dealing with the concept of type selection "rigidly construed." Most of these do not apply to the present case except that all up to *Opinion* 99 demonstrate a strict approach to the question of type selection. *Opinion* 45, however, is of considerable significance to the question under consideration.

28. The summary of *Opinion* 45 reads as follows: " So far as one can judge from the premises submitted, the type of *Syngnathus* Linnaeus, 1758, has never been definitely designated, and there is no objection to designating, as such, the species *acus* Linnaeus to accord with general custom and convenience." Without going into the entire history of this case it can be briefly stated that the genus *Syngnathus* Linnaeus, 1758, with seven original species was restricted by Rafinesque (1810b) to two species—a Linnaean species, *Syngnathus aequoreus*, hence the only one of the original species, and a new species, *Syngnathus punctatus* Rafinesque, 1810. He did not select a type species, nor had any previous author. No type selection was made during the rest of the 19th century. However, Jordan and Evermann (1896 : 774) gave in the synonymy of "*Syngnathus*, Linnaeus " the following citation: "*Syngnathus*, Rafinesque, Caratteri, 18, 1810 (restricted to *aequoreus*)." Actually, as is pointed out in *Opinion* 45, Rafinesque (1810a), in the reference cited by Jordan and Evermann, did not mention the genus *Syngnathus* ; this was done in the later work (1810b). It was the conclusion of the Commission that Jordan and Evermann did not thereby select a type species for the genus *Syngnathus* Linnaeus, 1758.

29. Now it seems to me that the cases of *Syngnathus* of Jordan and Evermann (1896) and *Entamoeba* of Brumpt (1913) are parallel. In both cases statements, not strictly accurate, were made by later authors about the genera of earlier workers. In neither case was there an unequivocal selection of a type species. Yet the Commission saw fit in the first case to determine that Jordan and Evermann's statement, " restricted to *aequoreus*," was not, " ' rigidly construed,' " a type selection, whereas Brumpt's statement, " created *de novo* . . . for . . . *E. hominis* " was such a selection. As indicated, Brumpt's statement erred, for actually Casagrandi and Barbagallo raised *Entamoeba* for two species: " *Amoeba coli* " and " *Amoeba blattarum*."

30. *Opinions* 45 and 99 are, I feel, in essential disharmony on the point discussed. Whereas *Opinion* 99 is the later and might be held as superseding *Opinion* 45, the point in which the latter is inconsistent with the former is the fundamental issue of its case and that of *Opinion* 99 is a secondary issue. I do not believe that the International Commission meant, in effect, to reverse *Opinion* 45 in *Opinion* 99. Furthermore I feel that the decision that Brumpt (1913) selected a type species for the genus *Entamoeba* Casagrandi and Barbagallo, 1895, is inconsistent with the spirit of the phrase " rigidly construed " in Article 30.

31. Having considered Brumpt (1913), we can now return to Chatton (1910). A point, the significance of which has not so far been examined, is that the genus *Entamoeba* Chatton, 1910, actually included the two species placed by Casagrandi and Barbagallo in their genus. Some may argue that in so doing Chatton actually comprehended the Italian workers' genus despite his designation "*Entamoeba* Leidy." This is not necessarily so, however.

A genus is rigidly defined by its type species; unless or until a type species is designated or selected, a given genus is of necessity a plastic entity to a greater or lesser degree. Chatton in effect united *both* Leidy's and Casagrandi and Barbagallo's genus in his *Entamoeba.*

32. What happened, in effect, was that Chatton incorrectly—from the standpoint of priority—included *Entamoeba* Casagrandi and Barbagallo, 1895, in synonymy with his *Entamoeba* (1910); no objection from the standpoint of priority would, however, extend to synonymizing the Italian workers' genus with *Endamoeba* Leidy, 1879, the action that he, in fact, meant to take. Despite the fact that Chatton (1910) must be considered as having automatically designated the type species of *Entamoeba* Chatton, 1910 (=*Endamoeba* Leidy, 1879, emended) as *Amoeba blattae* Bütschli, 1878, this should have no effect on the type of *Entamoeba* Casagrandi and Barbagallo, 1895, a genus which was named independently and not as an emendation of Leidy's name "*Endamoeba*" and which Chatton cannot reasonably be regarded as comprehending in his use of the generic name "*Entamoeba.*" *Opinion* 164* (Int. Comm. Zool. Nomencl., 1945a) makes this point clear.

33. The summary of *Opinion* 164 states in part as follows: "When two or more genera are united on taxonomic grounds, such action in no way affects the types of the genera concerned." Thus, even though the type species of *Entamoeba* Chatton, 1910, may be regarded as having been designated, that designation cannot, according to *Opinion* 164, affect the type species of *Entamoeba* Casagrandi and Barbagallo, 1895, which Chatton in effect united with his genus.

34. Although Crawley (1913 : 185) listed *Entamoeba histolytica* Schaudinn, 1903, as type species of *Entamoeba*, this cannot be taken as a valid selection of a type species inasmuch as *E. histolytica* was not an originally included species. It is true that the nominal species *Amoeba coli* Lösch, 1875 [=*E. histolytica*], was placed in *Entamoeba* as originally proposed by Casagrandi and Barbagallo (1895), but the organism so identified by them was in actuality the modern *E. coli.*

35. The first unequivocal selection of a type species for *Entamoeba* Casagrandi and Barbagallo, 1895, was made by Dobell (1919 : 17–18) as follows: "I shall therefore continue to refer three of the common amoebae of man—namely, *E. coli*, *E. histolytica*, *E. gingivalis*—to the genus *Entamoeba* Casagrandi and Barbagallo, 1895; whilst provisionally I reserve the separate genus *Endamoeba* Leidy, 1879, for the amoeba of the cockroach. On this system, the type species of *Entamoeba* is *E. coli*, and the type of *Endamoeba* is *E. blattae.*" Dobell specifically stated that the *E. coli* so cited was based on Grassi's, not on Lösch's organism. For reasons given in Section VI even his selection encounters technical difficulties.

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* Cancelled, except for historical purposes, and its decision incorporated into the *Règles* (see 1950, *Bull. zool. Nomencl.* **4** : 157, 165–166).

V. The Status of the Trivial Names " coli " of Grassi (1879) and " histolytica " of Schaudinn (1903).

36. It is desirable at this point to bring up two questions which are only partly related to *Opinion* 99, but are nevertheless of great significance to the nomenclature of amoebae in man. These questions are respectively the validity of the trivial name *coli* for the large nondysenteric amoebae of man and the validity of the trivial name *histolytica* for the amoebae of human amoebic dysentery.

37. It is very important to ensure the status of the trivial name *coli*, inasmuch as it is universally applied today to the large nondysenteric amoeba of man, known as *Entamoeba*, or *Endamoeba*, *coli*—the species, moreover, which Dobell has designated as type of *Entamoeba* Casagrandi and Barbagallo, 1895. If this cannot be done under the existing rules, the International Commission must be called upon to exercise their plenary powers.

38. As already pointed out in paragraph 8 (i), the trivial name *coli* appeared first in the description by Lösch (1875) of organisms from a patient suffering with dysentery ; these unquestionably represented the species now designated *Entamoeba*, or *Endamoeba*, *histolytica*. For detailed historical discussions of the nomenclature of *E. coli* and *E. histolytica* I refer to Dobell (1919) and Stiles and Boeck (1923). It should be remarked, however, that Stiles and Boeck (1923) regarded *Amoeba coli* Lösch, 1875, as representing a mixture of species and contended that Stiles (1892) was the first worker to restrict the name to a single component species—the large nondysenteric amoeba. On this basis, they found it possible to accept the trivial name *coli* as valid under the rules for that form. However, Dobell (1919) has presented compelling evidence that Lösch (1875) dealt essentially with *E. histolytica*. It seems entirely logical on the basis of Lösch's usage to regard *coli* as the correct trivial name for the dysenteric amoeba of man. However, Dobell ingeniously found it possible to reject Lösch's selection on the basis of its being a vernacular name without nomenclatorial status. Lösch wrote as follows : " Da die von mir beschriebenen Amöbe, so viel mir bewusst, überhaupt mit keiner der bisher bekannten Formen vollkommen übereinstimmt, so scheint es mir gerechtfertigt, dieselbe bis auf Weiteres mit einem besonderen Namen zu bezeichnen und nach ihrem Fundorte etwa Amoeba coli zu nennen." Dobell pointed out that Lösch's " Amoeba coli " was written in ordinary type, not italicised or spaced ; he further stated that " there is nothing to indicate that Lösch did not employ it as a mere descriptive term." In view of the wording of Lösch's sentence this last statement by Dobell is considerably strained. However, the latter offered a rational solution to a vexing nomenclatorial problem, one which no reasonable systematist, lacking a legal means of rectifying the situation, would hesitate to follow if he wished to honour the *Règles* without contravening general usage. The alternative without suspension of existing rules is to substitute *coli* for *histolytica*, a procedure which would today disrupt the firmly established practices of two generations of protozoologists and medical scientists. Since this cannot be done in harmony with the rules and since *coli* is so firmly linked with the large nondysenteric amoeba, there appears to be involved a clear case where strict application of the *Règles* would result in confusion rather than uniformity. It is therefore important that *coli* be secured for the large nondysenteric amoeba of man by the International Commission acting on the plenary powers.

39. It would seem quite illogical, however, in securing *coli* to this end for it to be attributed to the authorship of Lösch. Since Grassi (1879) was the first to apply this trivial name to the large nondysenteric amœba, it is reasonable to follow Dobell and attribute it to his authorship. On this basis it is necessary to suppress *coli* of Lösch (1875) and validate the otherwise homonymous *coli* of Grassi (1879).

40. It is very important to ensure the status of the trivial name *histolytica* inasmuch as it is universally applied today to the dysenteric amoeba of man.

41. Though Dobell (1919), as mentioned, reviewed in detail the nomenclatorial history of the dysenteric amoeba of man, I find it impossible to follow him in all of his conclusions. He discussed four names (aside from *Amoeba coli*) as possibly referring to this species, which antedate *E. histolytica* Schaudinn, 1903—*Amoeba urogenitalis* of Baelz (1883, p. 237), *Amoeba vaginalis* of Blanchard (1885, p. 15), *Amoeba intestinalis* of Blanchard (1885, p. 15) and " amoeba dysenteriae " of Councilman and Lafleur (1891, p. 405). Dobell advanced reasons for rejecting each of these—Baelz's and Blanchard's names as unidentifiable and Councilman and Lafleur's as an obviously vernacular name. I have already pointed out that Dobell cannot be followed in his rejection of *Amoeba coli* Lösch, 1875, as a systematic name ; I believe that the same thing can be said for Councilman and Lafleur's " amoeba dysenteriae." They stated : " We have called the organism, which was first described by Lösch under the name *amoeba coli*, the '*amoeba dysenteriae*.' " Inadvertently or through ignorance they merely neglected to capitalize "*amoeba*." In regard to the other names cited by Dobell, I have no essential disagreement with his disposition of them. However, even if his rejection of Councilman and Lafleur's name were followed, the matter could not rest there, as can be seen by the following statement by him (: 28) : " Whilst it is true that the terms *A. coli* and *A. dysenteriae* were sometimes used correctly as zoological names, yet they were never used with clear specific conceptions before the time of Schaudinn." The first person to use *Amoeba dysenteriae* as an unquestionably systematic designation was Stiles (1892 : 524–525) in a review of Councilman and Lafleur's paper (1891). It is true that Stiles credited this name to the latter authors, but this fact makes it no less available. That this is so is demonstrated in *Opinion* 4* (Int. Comm. Zool. Nomencl., 1907, 1944a), the summary of which reads as follows : " Manuscript names acquire standing in nomenclature when printed in connection with the provisions of Article 25, and the question as to their validity is not influenced by the fact whether such names are accepted or rejected by the author responsible for their publication." The discussion by Hemming in the second edition of this *Opinion* (1944a) makes the availability of such a name as *Amoeba dysenteriae* of Stiles (1892) doubly clear.

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* To be cancelled, except for historical purposes, and its decision incorporated into the *Règles* see *Bull. zool. Nomencl.*, **4** : 145–146, 165–166, 1950).

42. It might seem, therefore, that, if *coli* of Lösch is suppressed as the trivial name for the dysenteric amoeba, *Amoeba dysenteriae* Councilman and Lafleur, 1891 (or Stiles, 1892), would be the next available name. However, Dobell (1919) either did not know about, or ignored, the name *Amoeba dysenterica* used by Pfeiffer (1888 : 662) as a new name for *Amoeba coli* of Lösch.* Stiles and Boeck (1923), in accepting Lösch's name as being restricted by Stiles (1892) to the nondysenteric amoeba, found it possible also to reject *Amoeba dysenterica* Pfeiffer, 1888, and *Amoeba dysenteriae* Councilman and Lafleur, 1891, on the basis that these were renamings of *Amoeba coli* Lösch, 1879, and for that reason had to follow the last name. It is sufficient to point out, since *Amoeba coli* Lösch, 1875, actually applied to the dysenteric species, and on that account alone the other names cited did likewise, Stiles and Boeck's contention is inappropriate. Thus, with the suppression of *coli* of Lösch (1875), *Amoeba dysenterica* Pfeiffer, 1888, is the next unquestionably and validly applied name for the dysenteric amoeba. However, it is impractical to consider substituting *dysenterica* of Pfeiffer (1888) for *histolytica* of Schaudinn (1903). This is clearly a case where strict application of the *Règles* would result in confusion rather than uniformity. The best interests of science will be served by retention of the specific name *Entamoeba histolytica* Schaudinn, 1903 (the next available name for the dysenteric amoeba after *Amoeba dysenterica* Pfeiffer, 1888, and *Amoeba dysenteriae* Councilman and Lafleur, 1891), the trivial name *histolytica* now being universally employed in the zoological and medical fields. In so doing the International Commission must suppress all previous potential or actual synonyms of the trivial name *histolytica*.

43. It is highly important that the International Commission give attention to the names of these important amoebae in man. A formal recommendation in that connection is made in the final section of this paper.

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* Pfeiffer wrote : "Im Jahr 1875 folgt alsdann die erste ausführliche und genaue Beschreibung von Lösch in St. Petersburg . . . Dessen Amoeba coli s. dysenterica Lösch hat so viel Aehnichkeit mit den aus dem Bläscheninhalt von Vaccine, Herpes, Varicella, etc., abgebildeten grossen Zellgebilden dass morphologisch und nach den Bewegungserscheinungen keine Trennung möglich ist." [" In 1875 then follows the first detailed and precise description—by Lösch in St. Petersburg . . . *Amoeba coli* or *dysenterica* Lösch has so much similarity to the large cell structures that have been pictured with the vesicular inclusions of vaccinia, herpes, varicella, etc., that no distinction is possible, either morphologically or on the basis of the appearance of their movements."] In subsequent discussion Pfeiffer referred to Lösch's form as *Amoeba coli* rather than *Amoeba dysenterica*. Lösch did not employ the word " dysenterica " as a trivial name; that name must therefore be credited to Pfeiffer.

VI. The status of the generic names "Endamoeba" Leidy, 1879, "Entamoeba" Casagrandi and Barbagallo, 1895, and certain others applied to Enteric Amoebae.

44. The genus *Endamoeba* Leidy, 1879, with its type species *Amoeba blattae* Bütschli, 1879, has already been placed on the "Official List of Generic Names in Zoology" in *Opinion* 95 (Int. Comm. Zool. Nomencl., 1926). This action is completely supported by the *Règles.*

45. The genus *Entamoeba* Casagrandi and Barbagallo, 1895, has been shown to be independent of *Endamoeba* on an orthographic basis. However, its exact nomenclatorial status has not yet been considered herein. At this point it is necessary to consider the status of *Entamoeba coli* as type species of *Entamoeba.* We have already seen (paragraph 8 (v)) that the Italian workers originally included in their genus the species "*Amoeba coli* (Lösch)" and "*Amoeba blattarum* (Bütschli)" [=*Amoeba blattae* Bütschli]. But the organism called "*Amoeba coli*" by them and later (Casagrandi and Barbagallo, 1897) renamed *Entamoeba hominis* was clearly not the dysenteric amoeba, to which Lösch's name applied, but the large nondysenteric form. Thus Dobell in selecting *Amoeba coli* as the type species of *Entamoeba* Casagrandi and Barbagallo, 1895, was so doing on the basis of an originally misidentified species. It is true that he corrected the initial error by properly identifying the species that the Italian workers had misidentified. However, the case still requires the attention of the Commission as prescribed in *Opinion* 168* (Int. Comm. Zool. Nomencl. 1945b), the title of which reads "On the principles to be observed in interpreting Article 30 of the International Code in relation to the names of genera based upon erroneously determined species. . . ." In the summary it is requested that, where such a case has been discovered, it "should be submitted with full details to the International Commission on Zoological Nomenclature and . . . that, pending their decision thereon, the genus should be regarded as a doubtful status." It may be remarked here that what is true of *Entamoeba* Casagrandi and Barbagallo, 1895, is equally true of *Löschia* Chatton and Lalung-Bonnaire, 1912, for which "*E. coli* Lösch" [=*Amoeba coli* Grassi, 1879] was also designated as the type species.

46. It therefore follows that *Entamoeba* Casagrandi and Barbagallo, 1895 (as also *Löschia* Chatton and Lalung-Bonnaire, 1912), as a genus based on a misidentified type species, is technically of doubtful status. Actually, there is no question of the practical application of either *Entamoeba* or *Endamoeba* to certain enteric amoebae of man; such is essentially universal. But it is important that the matter be legally clarified.

47. The question may well arise in view of the general confusion in the medical literature over the spelling of the genus used for the dysenteric and large nondysenteric amoebae of man, *Endamoeba* being quite general in the

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* Cancelled, except for historical purposes, and its decision incorporated into the *Règles* (see 1950, *Bull zool. Nomencl.*, **4**: 158–159, 165–166).

United States and *Entamoeba* in Britain, whether there ought to be independent genera *Endamoeba* and *Entamoeba*, which have been accepted as such by Dobell (1938), Kirby (1945), and others. Admittedly the close similarity of the names is regrettable. However, from the practical standpoint, no real difficulty should be encountered, for *Endamoeba blattae* and its congeners, being parasitic in insects, are of no particular consequence to medical scientists. Those zoologists that deal with insect parasites can be expected to be familiar with their nomenclature and are not likely to confuse the two genera; whereas the spelling *Endamoeba* as applied to amoebae in vertebrates may be some time a-dying in the general medical literature, this fact need not disturb scholars concerned with the real genus *Endamoeba*. There does not seem, therefore, to be any real objection to the coexistence of two independent genera with the names *Endamoeba* and *Entamoeba*.

48. The way thus seems well indicated. The International Commission should validate *Entamoeba* Casagrandi and Barbagallo, 1895, a genus based on an originally misidentified species as type species, for which the species *Amoeba coli* Grassi, 1879 (non Lösch, 1875) should be designated, Dobell's selection being thereby validated.

49. Dobell (1938) expressed the conviction that the dysenteric and non-dysenteric amoebae of man should be placed in separate genera. Although he has not himself done this formally, it would also be well for the International Commission to recognise the generic name that would be used for the dysenteric amoeba in case the proposed separation becomes generally recognised. As mentioned in paragraph 8 (vii), *Poneramoeba* was erected by Lühe (1909) with *Entamoeba histolytica* Schaudinn, 1903, as only species and therefore as type species. As first genus after *Entamoeba* available for the dysenteric amoeba, it would come into use. The International Commission might also permanently sink *Löschia* Chatton and Lalung-Bonnaire, 1912, by validating *Amoeba coli* Grassi, 1879, as its type species, thereby rendering it an objective synonym of *Entamoeba* Casagrandi and Barbagallo, 1895.

50. *Entamoeba* Casagrandi and Barbagallo, 1895, and *Poneramoeba* Lühe, 1909, with their respective type species, should therefore join *Endamoeba* Leidy, 1859, on the " Official List of Generic Names in Zoology."

VII. Conclusions and Recommendations.

51. The conclusions and recommendations of the present study are in three categories: those that relate to *Opinion* 99 itself; those that relate to the trivial names *coli* and *histolytica*; and those that relate to the generic names *Entamoeba* Casagrandi and Barbagallo, 1895, and *Poneramoeba* Lühe, 1909. The first are covered under paragraph 52; the second under paragraphs 53-55; and the third under paragraph 56.

52. I feel that it is necessary, and I hereby request, that the International Commission on Zoological Nomenclature should render an *Opinion* in which they first cancel *Opinion* 99 on the ground that the decision set forth therein is incorrect and misleading in certain important respects, and second make the following points, in substitution for those made in the *Opinion* so cancelled :

(i) The nominal genus *Entamoeba* Casagrandi and Barbagallo, 1895, was established independently of the nominal genus *Endamoeba* Leidy, 1879, the name *Entamoeba* as used by Casagrandi and Barbagallo being neither an accidental misspelling nor an emendation of the name *Endamoeba* as previously used by Leidy. Under Articles 34 and 36, the names *Endamoeba* and *Entamoeba* are not homonyms of one another.

(ii) Chatton (1912) did not select a type species for the genus *Entamoeba* Casagrandi and Barbagallo, 1895. In fact the supposed action of Chatton (1912) on the basis of which type selection was to be inferred according to the *Opinion* actually was originally carried out by Chatton and Lalung-Bonnaire (1912). The genus with which these authors had dealt was *Endamoeba* Leidy, 1879, to which Chatton himself in 1910 had applied the name *Entamoeba* as a tacit emendation of the name *Endamoeba*. Further, even if Chatton and Lalung-Bonnaire (1912) had been dealing with *Entamoeba* Casagrandi and Barbagallo, 1895, instead of with *Entamoeba* Chatton, 1910 (*emend. pro Endamoeba* Leidy, 1879), the action which they then took would not have constituted a valid selection of *Amoeba blattae* Bütschli, 1878, as the type species of that genus, for they did not make a definite type selection under Rule (g) in Article 30, nor did their action constitute such a selection under the special provisions of *Opinion* 6.

(iii) Brumpt's action in 1913 did not constitute a valid selection of a type species for *Entamoeba* Casagrandi and Barbagallo, 1895, for Brumpt did not comply with the requirements of Rule (g) in Article 30.

(iv) The first author definitely to select a type species for *Entamoeba* Casagrandi and Barbagallo, 1895, was Dobell (1919), who so selected *Amoeba coli* Grassi, 1879. This selection has been accepted by subsequent authors, but it must be noted that Casagrandi and Barbagallo (1895) did not include this nominal species in the genus *Entamoeba*, the name which they did so include being " *Amoeba coli* (Lösch)," which is the name for a different species, being the dysenteric amoeba of man now universally known as *Entamoeba histolytica* Schaudinn, 1903. On the other hand, it cannot be doubted that the species which Casagrandi and Barbagallo referred to as " *Amoeba coli* (Lösch) " was the species now universally identified as the large nondysenteric amoeba of man, *Amoeba coli* Grassi, 1879. Thus, the genus *Entamoeba* Casagrandi and Barbagallo, 1895, is one based on a misidentified type species. In these circumstances the Commission, acting under the instructions given to it by the International Congress of Zoology as to the action to be taken in any such case where the Commission is satisfied that confusion would result from the strict application of the *Règles*, should hereby use their plenary powers to designate *Amoeba coli* Grassi, 1879, to be the type species of the genus *Entamoeba* Casagrandi and Barbagallo, 1895, thus validating Dobell's selection.

53. It is necessary, if serious confusion is to be avoided, that the trivial names of the large nondysenteric and the dysenteric amoebae of man should be placed on an unassailable foundation. The problems arising in connection with the specific names *Amoeba coli* Grassi, 1879, and *Entamoeba histolytica* Schaudinn, 1903, are accordingly summarized in the following paragraphs.

54. Two points arise in connection with the name *Amoeba coli* Grassi, 1879 : (1) whether this is an available name ; and (2) whether it undoubtedly represents the large nondysenteric amoeba of man. As regards (1), the name *Amoeba coli* Grassi, 1879, is not an available name because of the prior *Amoeba coli* Lösch, 1875, which applies to the dysenteric amoeba. However, in view of the universal use of *coli* for the nondysenteric amoeba and the grave confusion which would result if this name had now to be discarded on technical nomenclatorial grounds, I recommend that this particular difficulty should be overcome by the Commission using its plenary powers to suppress the trivial name *coli* Lösch, 1875 (as published in the binominal combination *Amoeba coli*) and validate the trivial name *coli* Grassi, 1879 (as published in the binominal combination *Amoeba coli*). As regards (2), there is no reasonable doubt as to the principal species to which Grassi applied the name *coli*, but I recommend that, in order to settle this matter beyond dispute, the Commission should apply in this case the procedure which they adopted in Paris for the purpose of determining the identity of the species to which the trivial name *iris* Linnaeus, 1758 (as published in the binominal combination *Papilio iris*) should apply (see 1950, *Bull. zool. Nomencl.* **4** : 359–361)—that is, that the Commission should use its plenary powers to direct that the name *coli* Grassi, 1879 (as published in the binominal combination *Amoeba coli*) should be the trivial name of the large nondysenteric amoeba of man as definitively described and figured by Dobell (1919, pp. 78-92 ; pl. i, figs. 12-15 ; pl. ii, fig. 17 ; pl. iv, fig. 55-69).

55. The name *Entamoeba histolytica* Schaudinn, 1903, is universally applied to the dysenteric amoeba of man and the greatest confusion would result if it were necessary to change this practice for some technical nomenclatorial reason. On the other hand, there is no doubt that there are at least three older names for this species, namely, *Amoeba coli* Lösch, 1875, *Amoeba dysenterica* Pfeiffer, 1888, and *Amoeba dysenteriae* Councilman and Lafleur, 1891 (or Stiles, 1892). In addition, there are three other names which may have been applied to this species, namely : (1) *Amoeba urogenitalis* Baelz, 1883, (2) *Amoeba vaginalis* Blanchard, 1885, and (3) *Amoeba intestinalis* Blanchard, 1885. Accordingly, in order to provide an unquestionably valid title for the trivial name *histolytica* Schaudinn, 1903 (as published in the binominal combination *Entamoeba histolytica*), I recommend that the Commission, in addition to suppressing the trivial name *coli* Lösch, 1875 (as published in the binominal combination *Amoeba coli*), as recommended in paragraph 54 above, should use their plenary powers to suppress the under-mentioned trivial names and, having done so, should place those names (with *coli* Lösch, 1875) on the " Official Index of Rejected and Invalid Specific Trivial Names in Zoology " : (a) *urogenitalis* Baelz, 1883 (as published in the binominal combination *Amoeba urogenitalis*) ; (b) *vaginalis* Blanchard, 1885 (as published in the binominal combination *Amoeba vaginalis*) ; (c) *intestinalis* Blanchard, 1885 (as published in the binominal combination *Amoeba intestinalis*) ; (d) *dysenterica* Pfeiffer, 1888 (as published in the binominal combination *Amoeba dysenterica* ; and (e) *dysenteriae* Councilman and Lafleur, 1891 (or Stiles, 1892) (as published in the binominal combination *Amoeba dysenteriae*). Finally, as in the case of the trivial name *coli* Grassi, 1879, I recommend that the Commission should use its plenary powers definitely to attach the trivial name *histolytica* Schaudinn, 1903 (as published in the binominal combination *Entamoeba histolytica*) to the dysenteric amoeba of man as now recognized by specialists. I recommend that this object should be secured by the Commission directing that the trivial name *histolytica* Schaudinn, 1903, is to be the trivial name for the species as definitively described and figured by Dobell (1919, pp. 31-70 ; pl. i, figs. 1-6 ; pl. ii, fig. 16 ; pl. iii ; pl. iv, figs. 70-76).

56. While it is of the first importance that the trivial names of these amoebae should be firmly established, it is also necessary that the generic name *Entamoeba* Casagrandi and Barbagallo, 1895, be stabilized by being placed on the " Official List of Generic Names in Zoology " (type species *Amoeba coli* Grassi, 1879 [syn. *Entamoeba coli* (Grassi, 1879) Schaudinn, 1903], to be validated by the International Commission through the invocation of their plenary powers). In view of the fact that such an authority as Dobell felt that generic separation of the dysenteric and large nondysenteric amoeba of man will have to be carried out, it would also be well for the International Commission to place *Poneramoeba* Lühe, 1909 (type species *Entamoeba histolytica* Schaudinn, 1903, by original designation), first genus available for the dysenteric amoeba of man, on the " Official List." These two generic names would thereby join *Endamoeba* Leidy, 1879 (type species *Amoeba blattae* Bütschli, 1378 [syn. *Endamoeba blattae* (Bütschli, 1878) Leidy, 1879], by monotypy), already placed on the " Official List " under a decision taken in *Opinion* 95. The foregoing actions are hereby recommended.

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REPORT ON THE INVESTIGATION OF THE NOMENCLATORIAL PROBLEMS ASSOCIATED WITH THE GENERIC NAMES "ENDAMOEBA" LEIDY, 1879, AND "ENTAMOEBA" CASAGRANDI & BARBAGALLO, 1895 (CLASS RHIZOPODA)

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(Commission's reference Z. N. (S.) 185)

1. The need for a thorough review of the ruling in regard to the status of the generic name *Entamoeba* Casagrandi and Barbagallo, 1895 (Class Rhizopoda) in relation to the name *Endamoeba* Leidy, 1879, dealt with in the *Opinion* previously rendered by the International Commission on Zoological Nomenclature as *Opinion* 99, was first formally brought to the attention of the Commission in January, 1945, when Professor Harold Kirby (University of California, Berkeley, California, U.S.A.) submitted a paper entitled "*Entamoeba coli* versus *Endamoeba coli*," in which he drew attention to what appeared to be a serious error in that *Opinion*.

2. Owing to wartime difficulties, it was not possible at that time at once to publish Professor Kirby's paper in the *Bulletin of Zoological Nomenclature* and it was accordingly arranged that, in order to draw the attention of interested protozoologists to the nomenclatorial issues involved, Professor Kirby's paper should (as already contemplated) be published as soon as possible in the *Journal of Parasitology* and that it should be republished in the *Bulletin of Zoological Nomenclature* as soon as it was possible to submit this case to the International Commission for consideration. Not long afterwards, Professor Kirby's paper duly appeared (June, 1945, *J. Parasit.* **31** : 177-184). At my suggestion, Professor Kirby added a footnote, in which he explained that the problem dealt with in that paper had been submitted to the International Commission for decision and invited any specialist who might wish to comment on the conclusions reached in that paper to send those comments direct to myself, as Secretary to the Commission.

3. In July, 1946, Dr. Ellsworth C. Dougherty (University of California, Berkeley, California, U.S.A.) submitted to the Commission a paper in which he accepted the conclusions reached by Professor Kirby and brought forward additional matters which appeared to call for consideration.

4. *Notice given in* 1947 *of the possible use of the plenary powers in the present case :* Notice of the possible use of the plenary powers in this case was given in November 1947 to the journals *Science* and *Nature* and was published shortly thereafter. This notice, like the footnote attached to Professor Kirby's paper of 1945, failed to elicit any objections. Thus, by the time that the International Commission met in Paris in July, 1948, there were strong grounds for believing that a revision of *Opinion* 99 on the lines suggested would be in accordance with the general wishes of protozoologists.

5. *Preliminary action taken by the International Commission in Paris in* 1948 : The attention of the International Commission was drawn to this question during its Session held in Paris in 1948 in Commission Paper I.C. (48) 17 (1950, *Bull zool. Nomencl.* **3** : 128), which was considered by the Commission at its Twelfth Meeting during that Session (Paris Sessions, 12th Meeting, Conclusion 22 (4)) (1950, *Bull zool. Nomencl.* **4** : 338). The Commission then recommended—and the Congress agreed—that the decision in *Opinion* 99 (unlike the decisions in other *Opinions*) should not be recorded in the Schedule to the *Règles* then established for the recording of such decisions, until after the subject matter of that *Opinion* had been thoroughly reviewed and that, pending the outcome of that review, the questions dealt with in *Opinion* 99 were to be regarded as being *sub judice.*

6. *Review of the decision given in* " *Opinion* " 99 : Since the Paris Congress Dr. Dougherty has thoroughly reviewed both the literature of the amoebae of man dealt with in the present Report and the conclusions in regard to the names published for those species (both at the genus level and at the species level) given in *Opinion* 99. This investigation has confirmed the conclusions which he and Professor Kirby had previously reached and has brought to light certain other supplementary matters which will also need to be dealt with before the nomenclature of these species can be placed on a sound legal footing. Dr. Dougherty has accordingly revised his earlier paper to take account of these additional considerations. At the same time he has drafted the concluding recommendations, so as to secure that they deal with all the matters (relating to the placing on *Official Lists* and *Official Indexes* of names dealt with in *Opinions*) which the Paris Congress decided should in future be dealt with in cases of this kind.

7. *Close parallel between the history of the names published for the amoebae of man and that of the names published for the malaria parasites of man :* The data submitted by Professor Kirby and Dr. Dougherty amply justify the decision taken by the Commission in Paris to review the ruling given in *Opinion* 99, for they disclose a tissue of errors and misconceptions in that *Opinion.* The history of the names published for the amoebae of man, as set forth in the documents now submitted, shows a remarkable similarity with the history of the names published for the malaria parasites of man ; in each case, the universal practice of protozoologists for the last half century has been totally at variance with the provisions of the *Règles ;* in each case, it was Schaudinn who was principally responsible for the nomenclatorial errors which have become so deeply embedded in protozoological and medical literature ; in each case, the Commission attempted (in the case of the names of the amoebae of man, in *Opinion* 99 ; in the case of the malaria parasites of man, in *Opinion* 104) to reach a settlement without recourse to the plenary powers, the only difference in this regard between these two cases being that in the latter case the Commission sought to give valid force to the current practice of protozoologists, while in the former it did not.

8. *Action recommended :* During its Paris Session the International Commission corrected the errors previously made in regard to the names of the malaria parasites of man (see 1950, *Bull zool. Nomencl.* **4** : 594-624) and it is clearly desirable that a corresponding correction of the errors made in regard to the names of the amoebae of man should now be made as quickly as possible, in the light of the data submitted by Professor Kirby and Dr. Dougherty, the object of the action so taken being to give valid force to the current nomenclatorial practice of protozoologists and to avoid the appalling confusion which would result from any attempt strictly to apply the *Règles* to those names. In order to correct the errors in *Opinion* 99 and to deal fully with the associated nomenclatorial problems (as was done when a corresponding correction was made of errors in regard to the names of the malaria parasites of man), it would be necessary for the International Commission to take—and I recommend that it should take—action on the following lines :—

(1) cancel *Opinion* 99 as incorrect and misleading ;

(2) use its plenary powers :—

- (a) to suppress :—
  - (i) for the purposes both of the Law of Priority and also of the Law of Homonymy, the trivial name *coli* Lösch, 1875 (as published in the binominal combination *Amoeba coli*) *:*
  - (ii) for the purposes of the Law of Priority but not for those of the Law of Homonymy, the under-mentioned trivial names :—
    - (α) *urogenitalis* Baelz, 1883 (as published in the binominal combination *Amoeba urogenitalis*) *:*
    - (β) *vaginalis* Blanchard, 1885 (as published in the binominal combination *Amoeba vaginalis*) *:*
    - (γ) *intestinalis* Blanchard, 1885 (as published in the binominal combination *Amoeba intestinalis*) *:*
    - (δ) *dysenterica* Pfeiffer, 1888 (as published in the binominal combination *Amoeba dysenterica*) *:*
    - (ε) *dysenteriae* Councilman and Lafleur, 1891 (as published in the binominal combination *Amoeba dysenteriae*) *:*
- (b) to direct that the trivial name *histolytica* Schaudinn, 1903 (as published in the binominal combination *Entamoeba histolytica*)*:* is to be applied to the large dysenteric amoeba of man described and figured by Dobell (C.C.), 1919, *The Amoebae living in Man :* 31-70, Pl. I, figs. 1-6 ; pl. II, fig. 16 ; Pl. III ; Pl. IV, figs. 70-76 ;
- (c) to direct that the specific name *Amoeba coli*, as published by Grassi in 1879, is to be treated as being a specific name then published for the first time and to validate the trivial name so published ;

(d) to direct that the trivial name *coli* Grassi, 1879 (as published in the binominal combination *Amoeba coli*), as validated in (c) above, is to be applied to the large nondysenteric amoeba of man described and figured by Dobell (C.C.), 1919, *loc. cit.* : 78-92, Pl. I, figs. 12-15 ; Pl. II, fig. 17 ; Pl. IV, fig. 55-69 ;

(e) to designate *Amoeba coli* Grassi, 1879, as validated under (c) above and as defined in (d) above, as the type species of the genus *Entamoeba* Casagrandi and Barbagallo, 1895 (a genus based upon a misidentified type species) ;

(f) to direct that *Amoeba coli* Grassi, 1879, validated and defined as in (e) above, is to be accepted as the type species by original designation of *Löschia* Chatton and Lalung-Bonnaire, 1912 (a genus based upon a misidentified type species) ;

(3) to declare that the name *Entamoeba* Casagrandi & Barbagallo, 1895; is not a homonym of the name *Endamoeba* Leidy, 1879 ;

(4) to place the under-mentioned generic names on the *Official List of Generic Names in Zoology* :—

(a) *Entamoeba* Casagrandi & Barbagallo, 1895 (type species by designation under the plenary powers, under (2) (e) above : *Amoeba coli* Grassi, 1879, as validated and defined under (2) (c) and (2) (d) above respectively) (gender of generic name : feminine) ;

(b) *Poneramoeba* Lühe, 1909 (type species, by original designation : *Entamoeba histolytica* Schaudinn, 1903) (gender of generic name : feminine) (for use by workers who consider *Entamoeba histolytica* Schaudinn, 1903, to be generically distinct from *Amoeba coli* Grassi, the type species of *Entamoeba* Casagrandi & Barbagallo, 1895) ;

(5) to confirm the position on the *Official List of Generic Names in Zoology of Endamoeba* Leidy, 1879 (type species, by monotypy : *Amoeba blattae* Bütschli, 1878) (gender of generic name : feminine) ;

(6) to place the generic name *Löschia* Chatton & Lalung-Bonnaire, 1912 (type species, by designation under the plenary powers under (2) (f) above: *Amoeba coli* Grassi, 1879 (an objective synonym of *Entamoeba* Casagrandi & Barbagallo, 1895)) on the *Official Index of Rejected and Invalid Generic Names in Zoology* ;

(7) to place the under-mentioned specific trivial names on the *Official List of Specific Trivial Names in Zoology ;*

(a) *blattae* Bütschli, 1878 (as published in the binominal combination *Amoeba blattae*) (type species of *Endamoeba* Leidy, 1879) ;

(b) *coli* Grassi, 1879 (as published in the binominal combination *Amoeba coli*) (as validated and defined under the plenary powers under (2) (c) and (2) (d) above respectively) (type species of *Entamoeba* Casagrandi & Barbagallo, 1895);

(c) *histolytica* Schaudinn, 1903 (as published in the binominal combination *Entamoeba histolytica*) (as defined under the plenary powers under (2) (b) above) (type species of *Poneramoeba* Lühe, 1909);

(8) to place the under-mentioned trivial names on the *Official Index of Rejected and Invalid Specific Trivial Names in Zoology*:

(a) *coli* Lösch, 1875 (as published in the binominal combination *Amoeba coli*), as suppressed under the plenary powers under (2) (a) (i) above);

(b) the under-mentioned trivial names suppressed under the plenary powers under (2) (a) (ii) above:

(α) *urogenitalis* Baelz, 1883 (as published in the binominal combination *Amoeba urogenitalis*);

(β) *vaginalis* Blanchard, 1885 (as published in the binominal combination *Amoeba vaginalis*);

(γ) *intestinalis* Blanchard, 1885 (as published in the binominal combination *Amoeba intestinalis*);

(δ) *dysenterica* Pfeiffer, 1888 (as published in the binominal combination *Amoeba dysenterica*);

(ε) *dysenteriae* Councilman & Lafleur, 1891 (as published in the binominal combination *Amoeba dysenteriae*).

9. Before signing the present Report, I submitted it in draft for comment to Professor Harold Kirby and Dr. Ellsworth C. Dougherty, the two specialists who had communicated with the Commission on this subject. Both have since informed me that they concur in the solution suggested.

ON THE QUESTION OF THE CORRECT NAME FOR THE TYPE SPECIES OF THE GENUS "STEPHANURUS" DIESING, 1839 (CLASS NEMATODA*, ORDER RHABDITIDA), WITH RECOMMENDATIONS FOR THE PLACING OF CERTAIN NAMES ON THE "OFFICIAL LISTS"

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(Commission's reference Z.N.(S.)188)

Introduction

1. The type species, which is also the only generally recognized species, of *Stephanurus* Diesing, 1839—a strongyline genus placed by Chitwood and Chitwood (1937) in a subfamily STEPHANURINAE Railliet, Henry, and Bauche, 1919, of the family SYNGAMIDAE Leiper, 1912—is generally known as *Stephanurus dentatus* Diesing, 1839. It is the kidney worm of swine (*Sus scrofa*) and an organism of cosmopolitan distribution and considerable economic importance. Because of its prominence as a parasite of a domestic animal and the resulting close scrutiny it must suffer, it is rather surprising that in recent years the question of its specific name has not received more attention. It is now possible to say that certain facts in its history make apparent that the specific trivial name of Diesing (1839) can be used only if the International Commission on Zoological Nomenclature invokes its plenary powers. A detailed history of earlier papers was given by Tayler (1900); and the essential points in the nomenclatorial history have been more recently reviewed in a paper originating from the Imperial Bureau of Agricultural Parasitology, England, and apparently written by B. G. Peters (i.e., B.G.P., 1931), but therein the nomenclatorial issues were not directly faced.

2. An earlier draft of the present paper was first submitted to the International Commission in 1945. In its original form it dealt with problems, certain of which have subsequently been clarified by action of the International Commission and of the International Congress of Zoology at the historic Paris meetings in July, 1948. The following month (in August, 1948) the author visited Mr. Francis Hemming, Secretary to the International Commission; and it was at that time agreed between them that, if pertinent matters were still to be raised, the paper should be rewritten in light of decisions taken at the Paris Meetings and resubmitted. I have delayed doing this until the "Official Record of Proceedings of the International Commission on Zoological Nomenclature at their Session held in Paris in July, 1948" could be published. Now that such has been done in Volume 4 of *The Bulletin of Zoological Nomenclature*, I have reviewed the earlier draft and rewritten it. It is hereby resubmitted.

3. In the original draft a major problem, now essentially solved, dealt with questions of secondary homonymy (see 1950, *Bull. zool. Nomencl.* **4**:

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* The classification preferred by the author is to consider Nematoda a Phylum divided into Classes Phasmidea (including the Order Rhabditida) and Aphasmidea.

118–125, for conclusions of the International Commission, as approved by the Congress, on the subject of homonyms in zoological nomenclature). It is my feeling, however, that despite this considerable clarification it is desirable that the Commission consider a case of secondary homonymy and render an *Opinion* applying the new regulations ; in this way, as is pointed out later herein, one minor problem may be definitely solved. To ensure this end, I am reviewing in section II the main historical points and presenting in section III an analysis of the nomenclatorial problem.

4. A major consideration in regard to the name to be used for the kidney worm of swine still remains—namely, the question of a decision on the part of the Commission as to whether it might be better in the interests of stability to secure the use of the trivial name *dentatus* of Diesing, 1839, by exercise of plenary powers. Suggestions on this point are put forth in section IV.

5. Finally it is recommended in section V that certain generic names considered herein (particularly *Stephanurus* Diesing, 1839) be placed on the " Official List of Generic Names in Zoology " and certain trivial names on the " Official List of Specific Trivial Names in Zoology."

II. Review of the Nomenclatorial History

6. The kidney worm of swine was first described by Diesing (1839) as *Stephanurus dentatus*, only species of a new genus *Stephanurus*. The modernness of Diesing's conception is apparent from the fact that today it is still generally known by that name. Indeed, if Diesing's nomenclatorial treatment had been host another strongyline species (Order Rhabditida) with the same trivial name *dentatus*. Confusion arises, however, because there exists from the same host another strongyline species (Order Rhabditida) with the same trivial name, namely, one of the nodular worms of swine, now known as *Oesophagostomum dentatum* (Rudolphi, 1803) Molin, 1861 (originally *Strongylus dentatus* Rudolphi, 1803). Because of the fact that all strongylines with relatively well-developed bursae in the male were grouped by many nineteenth century helminthologists into one or two genera, i.e., *Strongylus* Müller, 1780, and *Sclerostoma* Rudolphi, 1809, it would not be surprising if at one time or another both *Stephanurus dentatus* and *Oesophagostomum dentatum* were to be included under a single genus. This has actually occurred as is shown in the following historical summary.

7. The important facts in the nomenclatorial history of the kidney worm are as follows :—

(i) Diesing (1839 : 232-233), as already noted, described the kidney worm of swine as *Stephanurus dentatus*, only species of a new genus *Stephanurus*.

(ii) Leidy (1856 : 54) referred to nematodes, apparently one of the nodular worms of swine, briefly : *Sclerostoma dentatum*, Rud. Several specimens, male and female, were obtained from the liver of the hog, *Sus scrofa*."

(iii) White (1859 : 428), described specimens of the kidney worm as *Stephanurus dentatus*, but apparently confused these with the worms reported by Leidy, as implied by the title of his paper : " Exhibition of specimens and figures of *Stephanurus dentatus*, Diesing, *Sclerostoma dentatum*? Rudolphi " ; he thus implied that the kidney worm might be the same as *Strongylus dentatus* Rudolphi, 1803 (now known as *Oesophagostomum dentatum*).

(iv) Verrill (1870a : 248–249 ; 1870b : 137–138 ; 1870c) described the kidney worm under the name *Sclerostoma pinguicola* ; he was ignorant of Diesing's description.

(v) Dean (1874 : 62–63) described very well the gross pathology produced by *Strongylus* [=*Stephanurus*] *dentatus* without indicating whether it was Rudolphi's or Diesing's name he had in mind.

(vi) Cobbold (1879 : 412) recommended the new name *Stephanurus nattereri* as a possible substitute for *Stephanurus dentatus* in order to avoid confusion with *Sclerostoma* [=*Oesophagostomum*] *dentatum*.

(vii) De Magalhães (1894) published a study of the morphology of the kidney worm. He concluded that it belonged in the genus *Strongylus* and accepted for it the name " *Strongylus* (*Sclerostomum*) *pinguicola* (Verrill)."

(viii) Railliet (1896 : 160) synonymized *Stephanurus* with *Sclerostoma* and accepted *Sclerostoma pinguicola* of Verrill (1870).

(ix) Tayler (1900 : 626) also regarded *Stephanurus* Diesing, 1839, as a synonym of *Sclerostoma* Rudolphi, 1809. She accordingly accepted *Sclerostoma pinguicola* Verrill, 1870, as the correct name of the kidney worm and placed *Stephanurus dentatus*, *Stephanurus nattereri*, and *Strongylus dentatus* of Dean (1874) as synonyms thereof ; she regarded *Sclerostoma dentatum* of Leidy (1856) as what is now *Oesophagostomum dentatum.*

(x) Neither de Magalhães, Railliet, nor Tayler specifically formed a combination between Diesing's trivial name *dentatus* and the generic names to which they in effect transferred it ; however, all three rejected it as a homonym.

(xi) Drabble (1922, 1923) described the kidney worm under the new name *Sclerostomum renium*, claiming that it was distinct from " *Sclerostoma pinguicola* (syn. *Stephanurus dentatus*)." However, Cameron and Clunies Ross (1924) have shown conclusively that Drabble's species is the same as Diesing's.

(xii) De Almeida (1928) described as *Stephanurus morai* specimens that Peters (1931) has shown also to belong to Diesing's species.

(xiii) Peters (1931) and others, both previously and subsequently, reverted to the trivial name *dentatus* with their recognition of genus *Stephanurus* as independent.

III. Discussion of the Nomenclatorial Problems

8. It is apparent from the foregoing historical summary that :—

(i) There are two species of nematodes parasitic in swine bearing the same trivial name, *dentatus*, but originally described in separate genera ;

(ii) Apparent confusion existed between these two species or at least between their names in the works of certain early writers (White, Dean), but these writers did not specifically regard or reject the later trivial name, *dentatus* of Diesing, 1839, as a homonym of earlier trivial name, *dentatus* of Rudolphi, 1803.

(iii) Later workers (de Magalhães, Railliet, Tayler) recognized both species and regarded them as congeneric, uniting them either in the genus *Strongylus* Müller, 1780, or in the genus *Sclerostoma* Rudolphi, 1809 ; they rejected the later name, *dentatus* of Diesing, 1839, as a homonym of the earlier, *dentatus* of Rudolphi, 1803, without, however, specifically forming a combination between the later trivial name and the new generic names to which it was transferred.

9. The International Congress at the Paris Meeting officially recognized for the first time two categories of homonymy—primary and secondary. Inasmuch as the two nematodes parastic in swine were originally described in separate genera, their trivial names cannot, in accordance with the definition of primary homonymy provided by the International Congress, be regarded as primary homonyms.

10. Under the definition of secondary homonymy drawn up by the International Commission at its Paris Meetings and subsequently approved by the Congress, a secondary homonym is to be regarded as having been rejected and hence permanently suppressed only if specifically recognised and rejected as such. This was not the case with either White (1859) or Dean (1874). White in effect implied, probably inadvertently, that the kidney worm of swine and that species of nodular worm occurring in the same host and originally given the trivial name *dentatus* by Rudolphi (1803) were conspecific. This synonymy was subsequently (and is at present) recognized to be untrue. Dean, in designating the kidney worm *Srongylus dentatus*, created a condition of secondary homonymy, but did not recognise and reject the trivial name *dentatus* of Diesing, 1839.

11. The position is quite otherwise in the case of de Magalhães (1894), Railliet (1896) and Tayler (1900), for each of these authors is to be regarded as having definitely recognized, in their estimation, *dentatus* of Diesing, 1839, to be a secondary homonym of *dentutus* of Rudolphi, 1803, and as having accordingly rejected the former. It was decided by the Congress at Paris, on the recommendation of the Commission, that, wherever a trivial name is clearly rejected as a secondary homonym prior to midnight G.M.T., December 31st, 1950/January 1st, 1951, such rejection is to be accepted as valid, and the trivial name in question is to be permanently suppressed. It is seemingly clear, therefore, that under this rule (to be formally constituted in an Article in the forthcoming edition of the *Règles Internationales de la Nomenclature Zoologique*), the specific trivial name *dentatus* of Diesing, 1839, is no longer available for the kidney worm of swine unless it is preserved by the International Commission under its plenary powers.

12. However, it has been my experience that some zoologists have held that homonymy does not exist unless a combination of generic and trivial name has been made so that identical specific names exist for two species, of which the trivial name of one (the later) then becomes a homonym. This would seem to be, as the Secretary of the International Commission might express it, a somewhat " ritualistic " requirement and not a necessary or even reasonable interpretation of the present rulings. However, in order to obviate any doubt, it is to be hoped that the International Commission will issue a ruling on this point in the form of a *Declaration*.

IV. The Correct Name for the Kidney Worm of Swine

13. As de Magalhães (1894), Railliet (1896), and Tayler (1900) are presumably to be regarded as having rendered Diesing's *dentatus* unavailable, the next trivial name to be considered for the kidney worm of swine is the subjective synonym *pinguicola* of Verrill, 1870. There is no prior usage of this trivial name in the Nematoda, and therefore the kidney worm would become *Stephanurus pinguicola* (Verrill, 1870) comb. nov. The names *Stephanurus nattereri* Cobbold, 1879, *Sclerostoma renium* Drabble, 1923, and *Stephanurus morai* de Almeida, 1928, would fall as subjective synonyms thereof.

14. The synonymy of *S. pinguicola* would be as follows :

Stephanurus pinguicola (Verrill, 1870) comb. nov.

Synonyms :

Stephanurus dentatus Diesing, 1839 ; *Sclerostoma pinguicola* Verrill, 1870 ; *Strongylus dentatus*, of Dean, 1874 [*non Strongylus dentatus* Rudolphi, 1803] ; *Stephanurus nattereri* Cobbold, 1879 ; " *Sclerostomum pinguicola* Verrill, 1870," of de Magalhães, 1894 ; *Strongylus* (*Sclerostomum*) *pinguicola* (Verrill, 1870) de Magalhães, 1894 ; *Sclerostomum renium* Drabble, 1922 ; *Stephanurus morai* de Almeida, 1928.

15. The question now arises as to whether the foregoing change is in the best interests of nomenclatorial stability and uniformity. *Stephanurus dentatus* Diesing, 1839, is a widely used name for an important parasite. Might it not be the wiser procedure to seek to establish this name through an appeal to the International Commission's plenary powers ?

16. A solution to the foregoing problems would appear to me to be best realized by canvassing a representative group of parasitologists concerned with problems of nomenclature. As one such person, I should myself favour permitting the regular application of the *Règles* to this case for the reasons that:

(i) The occurrence of two relatively closely related parasitic species having the same trivial name (*Stephanurus dentatus* and *Oesophagostomum dentatum*) in the same host should, if possible, be avoided.

(ii) I am not convinced that the dislocation of a change in the *trivial* name (*dentatus*) of the kidney worm of swine would be serious in view of the stability of its generic name (*Stephanurus*).

(iii) The suspension of the *Règles* in this case would, I believe, tend to weaken their stability in the long run, for the issue, without the invocation of plenary powers, is apparently clear-cut from the nomenclatorial viewpoint and would thereby serve as a good example of the application of the new rulings on secondary homonymy.

V. Recommendation for the placing of certain names on the " Official Lists "

17. At the present time the genus *Stephanurus* Diesing, 1939, has but one recognized species, originally designated *Stephanurus dentatus* by Diesing (1839). The genus has been generally recognized as independent for almost 50 years. It therefore seems desirable that its name be placed on the " Official List of Generic Names in Zoology " with type species *Stephanurus dentatus* Diesing, 1839 (subjective synonym, *Sclerostoma pinguicola*, Verrill, 1870= *Stephanurus pinguicola* (Verrill, 1870) comb. nov.). Depending upon the ultimate decision of the International Commission, either the trivial name *dentatus* of Diesing will (under plenary powers) be validated for the kidney worm of swine, or it must be rejected. In either event, the valid trivial name of the species should be included in the " Official List of Specific Trivial Names in Zoology." I therefore recommend that on the basis of the action of the International Commission either the trivial name *dentatus* Diesing, 1839 (as published in the binominal combination *Stephanurus dentatus*) or the trivial name *pinguicola* Verrill, 1870 (as published in the binominal combination *Sclerostoma pinguicola*) be so placed. If *dentatus* of Diesing, 1839, is not preserved under plenary powers, it must be placed on the " Official Index of Rejected and Invalid Specific Trivial Names in Zoology."

18. Finally, in order that the decision to be taken in the present case may be as complete as possible, I recommend that, when stabilizing the name of the kidney worm of swine, the International Commission should also stabilize the name of the common nodular worm of swine discussed in the present paper. The earliest name for this form, as now accepted generally, is *Strongylus dentatus* Rudolphi, 1803. Careful check in Stiles and Hassall's *Index-Catalogue of Medical and Veterinary Zoology. Subjects : Roundworms . . .* (1920, U.S. Hyg. Lab. Bull. **114**) reveals no problem of homonymy as regards this name. However, there are now known four species of nodular worms in domestic swine, and in all probability it cannot be stated with absolute certainty to which of these Rudolphi's name applied. It seems, nevertheless, almost

almost certain that the commonest of these, to which the trivial name *dentatum* (in the binominal combination *Oesophagostomum dentatum*) is now universally applied, was one of the species, probably the only one, studied by him. Accordingly, I propose that the International Commission place on the " Official List of Specific Trivial Names in Zoology," along with the name recognized by them as valid for the kidney worm of swine, whichever that may be, the trivial name *dentatus* Rudolphi, 1803 (as published in the binominal combination *Strongylus dentatus*), an indication being made by the International Commission at the same time that this trivial name is to be identified by reference to the definitive description and figures published for this species by Goodey (1924, pp. 1–14, figs. 1–15).

19. As already explained, this species is currently referred by specialists to the genus *Oesophagostomum* Molin, 1861, of which it is regarded as type by reason of its selection by Stiles and Hassall (1905, : 124).*

I therefore also ask that the generic name, *Oesophagostomum* Molin, 1861 (type species, by subsequent selection (Stiles and Hassall, 1905) : *Strongylus dentatus* Rudolphi, 1803, defined as already indicated) be placed on the " Official List of Generic Names in Zoology."

VI. Summary

20. A survey of the nomenclatorial history and status of the species generally known as *Stephanurus dentatus* Diesing, 1839, the kidney worm of swine, has been presented. Evidence has been given that, under the recent rulings given by the Congress on the advice of the International Commission at the Paris Meetings, *dentatus* of Diesing, 1839, must be considered as an invalid secondary homonym of the trivial name *dentatus* of Rudolphi, 1803, by reason of the rejection of the former by Railliet and others when the two species so named were placed by them in a single genus (*Strongylus* Müller, 1780, or *Sclerostoma* Rudolphi, 1809).

21. The fact that in no case did the authors specifically rejecting the trivial name *dentatus* of Diesing, 1839, make actual combinations of this trivial name with the generic names mentioned in paragraph 20 and thus did not actually create the homonymous combinations raises a point not explicitly covered in the emended rulings formulated by the International Commission at the Paris Meetings to cover secondary homonymy. Some zoologists have held that an actual citation of a homonymous specific name is necessary before the trivial name involved can be rejected as a homonym. The International Commission is hereby requested to render a *Declaration* on this point.

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* Prior to the clarification of Article 30 by the XIII International Congress of Zoology at Paris in July, 1948, it would have been a matter of doubt whether the action by Stiles and Hassall constituted a valid selection of the above species as type of *Oesophagostomum* (a) because Molin (1861) included *Strongylus dentatus* Rudolphi, 1803, in this genus only by (i) referring (p. 443) to it once in the discussion of the genus as *Oesophagostomum dentatum*, but (ii) later in the discussion of individual species merely citing (p. 445) the name *Strongylus dentatus* as a synonym of a newly named nominal species (*Oesophagostomum subulatum* Molin, 1861) and because (b) Stiles and Hassall, when making their selection for the genus *Oesophagostomum*, cited the type as follows : " *O. subulatum*=*O. dentatum* (Rudolphi)." Inasmuch as *O. subulatum* was recorded by Stiles and Hassall as the more recent of the two names, one is, I feel, entitled to interpret their action as selecting *O. dentatum* (=*Strongylus dentatus*) as type, of which *O. subulatum* was a synonym. Under the decision of the XIII International Congress of Zoology already referred to, it may be seen that *Strongylus dentatus* Rudolphi, 1803, is to be regarded as an originally included species of the genus *Oesophagostomum* Molin, 1861, and that the method used by Stiles and Hassall in selecting the type species of this genus constitutes a valid selection of Rudolphi's species (see 1950, *Bull. zool. Nomencl.*, **4** : 179–180—points (3) (a) and (3) (b)).

22. It is hoped that before the International Commission reach a decision, it will have before it the news of representative parasitologists on the question whether the trivial name *dentatus* of Diesing, 1839, should be preserved by invocation of the Commission's plenary powers. Arguments are presented in opposition to suspension of the rules in this case.

23. It is recommended to the International Commission that the name *Stephanurus* Diesing, 1839 (type species, by monotypy : *Stephanurus dentatus* Diesing, 1839 [subjective synonym, *Sclerostoma pinguicola* Verrill, 1870 (=*Stephanurus pinguicola* (Verrill, 1870) comb. nov.)] be placed on the " Official List of Generic Names in Zoology." At the same time, the valid trivial name of the kidney worm of swine should be placed on the " Official List of Specific Trivial Names in Zoology." This will be either *dentatus* Diesing, 1839 (as published in the binominal combination *Stephanurus dentatus*), if preserved by the International Commission through their plenary powers, or, if not, *pinguicola* Verrill, 1870 (as published in the binominal combination *Sclerostoma pinguicola*). I hereby recommend the latter procedure.

24. The trivial name *dentatus* of Rudolphi, 1803, is the generally accepted name for the most common of the four nodular worms of swine. This nominal species is also type of the genus *Oesophagostomum* Molin, 1861. In order to complete the present case, it is recommended to the International Commission that the name *Oesophagostomum* Molin, 1861 (type species, by subsequent selection (Stiles and Hassall, 1905) : *Strongylus dentatus* Rudolphi, 1803) also be placed on the " Official List of Generic Names in Zoology " and that at the same time the trivial name *dentatus* Rudolphi, 1803 (as published in the binominal combination *Strongylus dentatus*) be placed on the " Official List of Specific Trivial Names in Zoology " and identified with the definitive description and figures of Goodey (1924, pp. 1–14, figs. 1–15).

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ON THE QUESTION OF THE DESIRABILITY OF RETAINING THE TRIVIAL NAME "DENTATUS" DIESING, 1839 (AS PUBLISHED IN THE BINOMINAL COMBINATION "STEPHANURUS DENTATUS") AS THE TRIVIAL NAME OF THE KIDNEY WORM OF SWINE (CLASS NEMATODA, ORDER RHABDITIDA): AN APPEAL TO PARASITOLOGISTS FOR VIEWS ON THE QUESTION RAISED BY DR. ELLSWORTH C. DOUGHERTY

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(Commission's reference Z.N.(S.)188)

1. In his application to the International Commission on Zoological Nomenclature on the subject of the trivial name properly applicable to the kidney worm of swine (the type species of the genus *Stephanurus* Diesing), Dr. Ellsworth C. Dougherty discusses two separate questions: first, the question whether the trivial name *dentatus* Diesing, 1839 (as published in the binominal combination *Stephanurus dentatus*), the first trivial name published for that species, should be regarded as an invalid name on the ground that it is a junior secondary homonym of the trivial name *dentatus* Rudolphi, 1803 (as published in the binominal combination *Strongylus dentatus*), the two species having at different times been placed by different authors in the same genus; second, the question whether, if *dentatus* Diesing, 1839, is, under the *Règles*, a name which must be rejected as a secondary homonym of *dentatus* Rudolphi, 1803, it is desirable that the International Commission on Zoological Nomenclature should use its plenary powers for the purpose of validating the name *dentatus* Diesing, 1839, as the name of the kidney worm of swine,

2. On the first of these questions, Dr. Dougherty points out that Magalhães (1894), Railliet (1896) and Taylor (1900) each " definitely recognized, in their estimation, *dentatus* of Diesing, 1839, to be a secondary homoynym of *dentatus* of Rudolphi, 1803 " and " accordingly rejected the former ". Dr. Dougherty then refers to the decisions on the question of the rules governing specific homonymy taken by the Thirteenth International Congress of Zoology in Paris in 1948 and reaches the conclusion that, under the rules so revised, the trivial name *dentatus* Diesing, 1839, must be regarded as having been rendered permanently invalid by reason of the action taken by the authors cited above ; at the same time however, Dr. Dougherty recalls that in the past it has been argued that, in order to establish that a state of secondary homonymy exists, it is necessary not only for an author definitely to reject as a secondary homonym, the later published of any pair of homonyms but also to cite both species under the same combination of generic name and specific trivial name. In this connection, it is useful to recall that considerable discussion took place at the Sixth (Public) Meeting of the International Commission at its Paris Session regarding the criteria to be adopted in determining whether a given pair of names were to be regarded as secondary homonyms of one another ; the object of this dicussion was to devise criteria which would be clear and unambiguous, depending upon objective data and would at the same time be suitable for application not only to cases arising after the introduction of the new system but also to cases which had arisen prior to that date and to which the new system would need to be applied retrospectively. This discussion is recorded in considerable detail in the *Official Record of Proceedings* under heading (F) on pp. 112–115 of volume 4 of the *Bulletin of Zoological Nomenclature.* The formal record of the recommendation on this subject submitted by the Commission to, and later approved by, the Congress will be found embodied in points (8) and (9) of the Conclusion reached (see page 121 of the volume referred to above). At no time during these discussions was it suggested that the new provision to be adopted should require that, before two names could be regarded as being secondary homonyms of one another, each must be cited simultaneously by the same author under the same specific name (combination of generic name and specific trivial name), although (as stated by Dr. Dougherty) this argument had sometimes been advanced in the past by authors seeking to interpret the ambiguous provisions of the then-existing Article 35 (usually in relation to particular cases where the authors concerned were anxious to find reasons justifying the retention of a name which had been rejected by a former author as a secondary homonym but which was no longer considered non-generic with the other species bearing the same trivial name). Not only was no such argument advanced but, on the contrary, the view was strongly expressed that great care must be taken in the revision of Article 35 to avoid the inclusion of formal provisions of a " ritualistic " character of the kind which (as had previously been rightly pointed out by Dr. J. Brookes Knight (Smithsonian Institution, Washington, D.C.) had marred the amendment to Article 25 made by the Tenth International Congress of Zoology at Budapest in 1926). For this reason therefore it was expressly agreed that no definition of the procedure to be adopted by an author in rejecting one name as a secondary homonym of another should be inserted in the new rule and that, as regards rejections effected prior to 1st January 1951, the test to be applied should be simply whether or not the later author rejected the one name as a secondary homonym of the other. The " rejections " discussed by Dr. Dougherty in relation to the name *dentatus* Diesing, 1839, were all effected long before the Paris Congress and fall therefore to be judged by the above simple test. The evidence brought forward by Dr. Dougherty in regard to the action taken by de Magalhães, Railliet and Taylor in the last decade of the XIXth century clearly shows that those authors duly " rejected " the name *dentatus* Diesing, 1839, within the meaning of that term as used in Point (8) of the decision of the Paris Congress on this subject.

3. *Appeal to parasitologists :* The position which has now to be considered is therefore (as Dr. Dougherty points out) (1) whether or not confusion would result from the dropping (as an invalid homonym) of the name *dentatus* Diesing, 1839, as the trivial name of the Kidney Worm of Swine, that name being replaced by the name *pinguicola* Verrill, 1870, and (2) if the answer to the foregoing question is in the affirmative, whether the International Commission should prevent that confusion from arising by using its plenary powers to validate the name *dentatus* Diesing, 1839 for the Kidney Worm, that course being possible because the nodular worm to which the same trivial name had been given by Rudolphi in 1803 (in the combination *Strongylus dentatus*) is not considered congeneric with the Kidney Worm and in consequence, according to current taxonomic ideas, there would be no question of homonymy if the name *dentatus* Diesing were to be used for the Kidney Worm in the genus *Stephanurus* Diesing.

4. The foregoing is a matter on which the International Commission must naturally rely upon the views of parasitologists concerned with this group, who alone can advise on the relative merits of the question at issue (namely whether it is desirable that the name *dentatus* Diesing, 1839, or the name *pinguicola* Verrill, 1870, should be the valid name for the Kidney Worm of Swine).

5. Accordingly, it is particularly hoped that any parasitologist interested in this subject will be good enough to forward as soon as possible, to the Secretary to the Commission (address : 28 Park Village East, Regent's Park, London, N.W.1, England) a statement setting out his views for the consideration of the International Commission.

PROPOSED USE OF THE PLENARY POWERS TO VARY THE TYPE SPECIES OF THE GENUS "EYSARCORIS" HAHN, 1834 (CLASS INSECTA, ORDER HEMIPTERA), IN ORDER TO VALIDATE EXISTING NOMENCLATORIAL PRACTICE

By W. E. CHINA, Sc.D.
(*Deputy Keeper, Department of Entomology, British Museum (Natural History), London*)

(Commission's reference Z.N.(S.)212)

The object of the present application is to seek the help of the International Commission on Zoological Nomenclature in preventing the confusion which would inevitably arise if the *Règles* were strictly applied in the case of the generic name *Eysarcoris* Hahn, 1834 (Class Insecta, Order Hemiptera).

The relevant facts are as follows: The generic name *Eysarcoris* Hahn, 1834 (*Wanzehart. Ins.* **2**: 66) was established without a designated or indicated type species; one of the species included in it by Hahn was *Cimex punctatus* Linnaeus, 1758 (*Syst. Nat.* (ed. 10) **1** : 444). This species was selected as the type species by Desmarest in 1845 (*in* Orbigny, *Dict. univ. Hist. nat.* (Disciples, ed.) **5** : 526). This selection, being the first to have been made, is valid under the *Règles*. It has not, however, been accepted by hemipterists who have followed Distant, who in 1902 (*Faun. Brit Ind Rhyn.* **1** : 165) selected *Cimex perlatus* Fabricius, 1794 (*Ent. syst.* **4** : 125) (i.e., *Cimex aeneus* Scopoli, 1763 *Ent. carn.*: 122) as the type species of this genus.

The acceptance of Desmarest's selection of *Cimex punctatus* Linnaeus as the type species of the genus *Eysarcoris* Hahn would cause much more confusion than uniformity in the generic names in the family PENTATOMIDAE, for it would involve not only the loss of the well-known generic name *Rhacognathus* Fieber, [1860] (*Europ. Hem.* : 81, 347) (which would be replaced by the name *Eysarcoris* Hahn), but also the transfer of the long-established generic name *Eysarcoris* Hahn from the sub-family PENTATOMINAE to the sub-family ASOPINAE, and the replacement in the PENTATOMINAE of name *Eysarcoris* Hahn by the little-used generic name *Stollia* Ellenrieder, 1862 (*Nat. Tijdschr. ned. Ind.* **24** : 149). This latter genus has, as its type species by monotypy, an Oriental species *Stollia fuliginosa* Ellenrieder, 1862, which is only doubtfully congeneric with the European species now (incorrectly) referred to the genus *Eysarcoris* Hahn.

In order to avoid the confusion and uncertainties described above, I ask the International Commission on Zoological Nomenclature :—

(1) to use its plenary powers :—

- (a) to set aside all selections of type species for the genus *Eysarcoris* Hahn, 1834, made prior to the proposed decision ;
- (b) to designate *Cimex aeneus* Scopoli, 1763, to be the type species of the foregoing genus ;

(2) to place the generic name *Eysarcoris* Hahn, 1834 (type species, by designation under the plenary powers, as proposed in (1) (b) above: *Cimex aeneus* Scopoli, 1763) on the *Official List of Generic Names in Zoology* (gender of generic name: masculine);

(3) to place the trivial name *aeneus* Scopoli, 1763 (as published in the binominal combination *Cimex aeneus*) on the *Official List of Specific Trivial Names in Zoology*.

PROPOSED USE OF THE PLENARY POWERS TO VALIDATE THE SPECIFIC TRIVIAL NAME " ACUMINATA " IOFF & TIFLOV, 1946 (AS PUBLISHED IN THE COMBINATION " RHADINOPSYLLA (RECTOFRONTIA) ACUMINATA") AS APPLIED TO THE SPECIES NUMBERED " 68 " BY THOSE AUTHORS (CLASS INSECTA, ORDER SIPHONAPTERA)

By G. H. E. HOPKINS, O.B.E., M.A.,
(*British Museum (Natural History), Zoological Museum, Tring, Herts.*)

(Commission's reference Z.N.(S.)386)

Ioff (*in* Ioff, Tiflov, *et al.*, 1946, *Med. Parasitol. Moscow*, **15** (No. 4) : 91) published a subgenus *Ralipsylla* of *Rhadinopsylla*. On the following page he and other authors published numerous new species or subspecies which are numbered, numbers 60, 61 and 63 being referred to the subgenus *Ralipsylla* and 64 to 68 inclusive to the subgenus *Rectofrontia*. But both No. 62 and No. 66 are called " *Rhadinopsylla* (*Rectofrontia*) *acuminata* Ioff et Tiflov," and this is the first time this name had been published. Obviously one of these duplicate names must be a *lapsus calami*, and it is clear from the context which is the error, because No. 62 is sandwiched in among forms of *Ralipsylla* whereas No. 66 is correctly placed among forms of *Rectofrontia* ; it is, therefore No. 66 to which the name *acuminata* was intended to apply. Moreover, in the separates of the paper (but not in the original publication) the name of No. 62 is altered in manuscript, presumably by Professor Ioff, to *Rhadinopsylla* (*Ralipsylla*) *li transbaikalica* Ioff et Tiflov. This manuscript alteration does not, of course, constitute publication, but in No. 6 of the same periodical and volume, also published in 1946, there is (: 94) a list of corrections of misprints in the original paper, among which is the statement that the name of species No. 62 on p. 92 of the original paper should be *Rhadinopsylla* (*Ralipsylla*) *li transbaikalica* Ioff et Tiflov, not *Rhadinopsylla* (*Rectofrontia*) *acuminata* Ioff et Tiflov as printed.

In these circumstances the strict application of the *Règles* to the present case would serve no useful purpose whatever : (1) it would involve the pedantic acceptance of something which was undoubtedly an error (namely, the application of the name *Rhadinopsylla* (*Rectofrontia*) *acuminata* Ioff and Tiflov, 1946, to the species to which those authors applied the number " 62 ") and the equally pedantic rejection, as a homonym, of the same name as deliberately applied by those authors to the entirely different species referred to by them as species number " 68 " ; (2) such action would lead to confusion in the nomenclature of these fleas, since the Russian workers would certainly not follow the strict application of the *Règles* in this matter. The present is therefore, in my opinion, pre-eminently a case where it would be appropriate for the International Commission on Zoological Nomenclature to use its plenary powers to give valid force to the evident intention of Ioff and Tiflov, when they wrote their paper in 1946, and to the consequent current practice of specialists in this group, for such action would promote uniformity and prevent the confusion which would otherwise occur in the nomenclature of this group. The proposal which I therefore now place before the Commission is that it should :—

(1) use its plenary powers :—

(a) to suppress for the purposes both of the Law of Priority and of the Law of Homonymy the trivial name *acuminata* Ioff and Tiflov, 1946, *Med. Parasitol. Moscow* **15** (No. 4) : 91 as inadvertently published in the combination *Rhadinopsylla* (*Rectofrontia*) *acuminata*, and applied to the species there cited by those authors under the number " 62 " ;

(b) to validate the foregoing trivial name (a) as published by the foregoing authors on the same page of the same work and in the same combination and (b) as deliberately applied by those authors to the species cited by them under the number " 68 " ;

(2) place on the *Official List of Specific Trivial Names in Zoology* (i) the trivial name *acuminata* Ioff and Tiflov, 1946 (as published in the combination *Rhadinopsylla* (*Rectofrontia*) *acuminata*), as validated under (1) (b) above ; (ii) the subspecific trivial name *transbaikalica* Ioff and Tiflov, 1946, as published in the trinominal combination *Rhadinopsylla* (*Ralipsylla*) *li transbaikalica* (1946, *Med. Parisitol. Moscow*, **15** (No. 6) : 94) as a substitute name for *Rhadinopsylla* (*Rectofrontia*) *acuminata* applied in error to species No. 62 in *loc. cit.* (No. 4) : 91, suppressed under 1 (a) above.

(3) place on the *Official Index of Rejected and Invalid Specific Trivial Names in Zoology* the trivial name *acuminata* Ioff and Tiflov, 1946 (as inadvertently published in the combination *Rhadinopsylla* (*Rectofrontia*) *acuminata*) as suppressed under (1) (a) above.

APPLICATION FOR THE ADDITION OF THE NAME "SPIRULA" LAMARCK, 1799 (CLASS CEPHALOPODA) TO THE "OFFICIAL LIST OF GENERIC NAMES IN ZOOLOGY" AND MATTERS INCIDENTAL THERETO

By the late R. WINCKWORTH (*London*)

(Commission's reference Z.N.(S.) 416)

Application is hereby made for the International Commission on Zoological Nomenclature to place the name *Spirula* Lamarck, 1799 (*Mém. Soc. Hist. nat. Paris* **1799** : 80) (gender of name : feminine) on the *Official List of Generic Names in Zoology.* The only species then placed in this genus by Lamarck was *Nautilus spirula* Linnaeus, 1758 (*Syst. Nat.* (ed. 10) **1** : 710), which is therefore the type species by monotypy.

Apart from the use of the spelling *Spirulea* by Peron and Lesueur in 1807 (*Voy. Aust.*, Atlas **1** : pl. xxx) and by Oken in 1815 (*Lehrbuch Naturgesch.* **3**(1) : 333) and the emendation of that spelling to *Spirulaea* by Agassiz (L.) in 1845 (*Nomencl. zool.* (Moll.)), and the use for this genus of the name *Lituus* Cuvier, 1817 (*Règn. anim.* **2** : 369), by Gray in 1849 in a catalogue, the entire literature since the time of Lamarck refers to this genus under the name *Spirula.* The variants *Spirulea* and *Spirulaea* should be placed on the *Official Index of Rejected and Invalid Generic Names* at the same time that the name *Spirula* Lamarck is placed on the *Official List.*

The trivial name *spirula* Linnaeus, 1758 (as published in the binominal combination *Nautilus spirula*) is the oldest available name for the type species of *Spirula* Lamarck and should be placed on the *Official List of Specific Trivial Names* at the same time that the name *Spirula* Lamarck is placed on the *Official List of Generic Names.* In 1801 (*Syst. Anim. sans Vertèbr.* : 102) Lamarck renamed this species *Spirula fragilis* ; the invalid trivial name *fragilis* Lamarck, 1801, should be placed on the *Official Index of Rejected and Invalid Specific Trivial Names in Zoology.*

APPLICATION FOR A RULING THAT THE " PRODROMO " OF S. A. RENIER AND THE " PROSPETTO DELLA CLASSE DEI VERMI " (DATED 1804) PREPARED FOR INCLUSION IN THE " PRODROMO " WERE NOT PUBLISHED WITHIN THE MEANING OF ARTICLE 25 OF THE " RÈGLES "

By L. R. COX, Sc.D., F.R.S.

(*Department of Geology, British Museum (Natural History), London*)

(Commission's reference Z.N.(S.) 432)

1. The object of the present application is to secure from the International Commission on Zoological Nomenclature a ruling that the " Prodromo " of S. A. Renier and the " Prospetto della Classe dei Vermi " (dated 1804) prepared by that author for inclusion in the " Prodromo " were never published within the meaning of Article 25 (as clarified by the International Congress of Zoology in 1948—see 1950, *Bull. zool. Nomencl.* **4** : 215-221).

2. The immediate cause of this application is the proposition by Wenz (W.) (1940, *Handb. Paläozool., Gastropoda* : 824) of the new generic name *Nerinoides* to replace the name *Nerinella* Sharpe, 1850 (*Quart. J. geol. Soc. Lond.* **6** : 103), on the ground that that name is an invalid junior homonym of *Nerinella* Nardo, 1847 (*Prospetto Faun. marin. volg. Veneto Estuario* 13), a name assumed by Wenz to possess rights under the Law of Priority.

3. Nardo (1847) gave no diagnosis for his *Nerinella*, to which he referred a single species only, namely *Amphinome chermesina* Renier, which he described as " un piccolo annelide." If in fact Renier had ever published the foregoing specific name with an indication, definition or description, the generic name *Nerinella* Nardo, 1847, would have been an available name, for the genus so named would have been monotypical and the name would therefore have satisfied the requirements of Proviso (*a*) to Article 25—up to 1948, as defined by *Opinion* 1 and since that date, under the clarification of the foregoing Proviso adopted by the International Congress of Zoology (see 1950, *Bull. zool. Nomencl.* **4** : 78-80).

4. The name " *Amphinome chermesina* Renier " rests, however, solely upon its having been included in the work cited by Nardo as the " Prodromo 1804 " of Renier, no reference of a more detailed kind being given by Nardo. Renier's *Prodromo* appears to have been a work contemplated but never published. All that can be traced of it consists of printed copies, in single folio sheets, of two of its proposed Sections. These Sections are entitled respectively " Tavola Alfabetica delle Conchiglie Adriatiche " and " Prospetto della Classe dei Vermi." Both are dated " 1804." The copies traced are preserved in the Library of the University of Padua and appear to be the only original ones in existence. It is uncertain whether they are page-proofs or copies printed for circulation among students. Reduced photographic reproductions of these sheets, kindly furnished by the University Authorities for use by C. D. Sherborn, when preparing his *Index Animalium*, are in the British Museum (Natural History). The term " Amfinome chermesina " appears as a vernacular name (being rendered into Latin as *Amphinome coccinea*) on page xviii of the second of the Sections described above.

5. It is submitted that the existence of these unique fragments of a work contemplated but never published cannot be held to establish that even these fragments were ever " published " within the meaning of that expression as used in Article 25, as clarified by the Paris Congress. The difficulties which have arisen in the present case through the lack of an authoritative ruling on this subject—and the risk that similar difficulties may arise in connection with other names—can only be removed when an *Opinion* on this subject is rendered by the International Commission.

6. If, as I conclude from the evidence summarised above, there existed in 1847 no specific name *Amphinome chermesina* that had been validly published with an indication, definition or description, the name *Nerinella* Nardo, 1847, is invalid, since that name depends for availability entirely upon the indication (if any) provided by the citation of the foregoing specific name. It must be concluded therefore that, contrary to the view advanced by Wenz (1940), the name *Nerinella* Sharpe, 1850, is an available name, so far as the Law of Homonymy is concerned. It is also an available name from the point of view of the Law of Priority, it being the oldest available generic name for *Nerinea dupininana* d'Orbigny, 1843 (*Paleontolog. franc.*, Crét. **2** (Gastropod.) : 81), the type species of *Nerinella* Sharpe, by selection by Cossman, 1896 (*Ess. Paleontolog. comp.* **2** : 36). The trivial name *dupiniana* d'Orbigny, 1843, is the oldest available name for the type species of this genus.

7. The International Commission on Zoological Nomenclature is accordingly asked :—

(1) to declare, for the purpose of the removal of doubts, that neither the " Prodromo " of Renier (S.A.) nor the " Prospetto della Classe dei Vermi " intended for inclusion therein was published within the meaning of Article 25 of the *Règles* and therefore that no name acquired any status in zoological nomenclature by reason of having appeared in either of the foregoing works ;

(2) to place the generic name *Nerinella* Sharpe, 1850 (gender of name : feminine) (type species, by selection by Cossman, 1896 : *Nerinea dupiniana* d'Orbigny, 1843) on the *Official List of Generic Names in Zoology ;*

(3) to place the generic name *Nerinella* Nardo, 1847 (an invalid name because not published within the meaning of the *Règles*) on the *Official Index of Rejected and Invalid Generic Names in Zoology ;*

(4) to place the trivial name *dupiniana* d'Orbigny, 1843 (as published in the binominal combination *Nerinea dupiniana*) on the *Official List of Specific Trivial Names in Zoology ;*

(5) to place the following reputed or invalid trivial names on the *Official Index of Rejected and Invalid Specific Trivial Names in Zoology ;*

  (*a*) the trivial name *chermesina* Renier (erroneously alleged to have appeared in 1804 in the binominal combination *Amphinome chermesina* in a work by Renier (S.A.), which itself was not duly published as required by the *Règles*) (a cheironym) ;

  (*b*) the trivial name *coccinea* Renier (included in the combination *Amphinome coccinea* in a work dated 1804 which was not duly published as required by the *Règles*).

PROPOSED ADDITION OF " CERCOPIS " FABRICIUS, 1775, AND " SANGUINOLENTA " SCOPOLI, 1763 (AS PUBLISHED IN THE BINOMINAL COMBINATION " CICADA SANGUINOLENTA "), TO THE OFFICIAL LISTS OF GENERIC NAMES AND SPECIFIC TRIVIAL NAMES IN ZOOLOGY RESPECTIVELY

By WILHELM WAGNER (*Hamburg-Fuhlsbüttel*)

(Commission's reference Z.N.(S.)441)

The genus *Cercopis* (belonging to the Homoptera Auchenorrhyncha) was established by Fabricius, 1775 (*Syst. Ent.* : 688). The name was published in accordance with the *Règles*. It was accompanied by a diagnosis, but Fabricius did not designate a type species. However, since the name was published before 1st January, 1931, it is not invalidated by this omission. The name *Cercopis* Fabricius, 1775, is not a homonym of any previously published generic name.

Fabricius included nine species in this genus, which alone, according to Rule (g) in Article 30, are eligible for selection as the type species of the genus. Four different species have been cited as type species of this genus in the literature, and even in the most recent literature there appears to be confusion as to the validity of these type selections. A list of references is given in the Appendix to this paper of selections or reputed selections of a type species for the genus *Cercopis* Fabricius, which has been kindly furnished by Professor Z. P. Metcalf *in litt.*).

The first type selection which was strictly in accordance with the *Règles* was that by Latreille in 1810 (*Consid. gén. Crust. Arach. Ins.* : 434). *Opinions* 11 and 136 declared that type selections made in this work in the case of all genera, for which one species only was cited, were to be accepted as valid. The only species cited in the case of the genus *Cercopis* was " *sanguinolenta* Fab," i.e., *Cercopis sanguinolenta* Fabricius, 1775 (*Syst. Ent.* : 688) ; this, as the reference given by Fabricius shows, was not a new name published by Fabricius but was the same as *Cicada sanguinolenta* Scopoli, 1763 (*Faun. carn.* : 112).

Since the validity of this type selection is beyond question, it is not necessary here to examine further the more recent references. It should be noted that in the two earlier references cited in the Appendix (namely, Latreille, 1802, and Froriep, 1806) the species *C. spumaria* Fabricius was cited but only as an example of the genus, not specifically as its type species. Consequently, this species cannot be regarded as the type species by subsequent selection in accordance with Rule (g) in Article 30. The type species must therefore be accepted as being *Cicada sanguinolenta* Scopoli, 1763.

Since, however, a number of different type species have been accepted for the genus *Cercopis* in the literature, various nomenclatorial difficulties have arisen.

Cercopis spumaria Linnaeus and *Cercopis sanguinolenta* Scopoli are now regarded as belonging to different genera. Hence the nomenclature of both the genera concerned is insecure. In the case of the first (based on *C. spumaria*) it fluctuates between *Cercopis* Fabricius and *Aphrophora* Germar, 1821, and in the case of the second (based on *C. sanguinolenta*) it fluctuates between *Cercopis* Fabricius and *Triecphora* Amyot et Serville, 1843. Both genera include relatively large and prominent species, which for the most part are very widespread in the palaearctic region, and the names of which in consequence, occur frequently in textbooks and in popular literature. The first genus is represented by more than 40 species in the palaearctic region, and the second by more than 10. Stabilisation is therefore highly necessary, in view of the frequent use of these names.

The name *Cercopis* has formed the base of the family name CERCOPIDAE and the sub-family name CERCOPINAE. But *Cercopis spumaria* and *Cercopis sanguinolenta* belong to two different sub-families. Thus, so long as there is no certainty as to which is the type species of *Cercopis*, the application of the name of the sub-family must also remain uncertain. The two above-mentioned sub-families have been treated in the most recent literature as separate families. As a result, the uncertainty extends also to the use of the family name CERCOPIDAE. This is another reason why the stabilisation of the use of the name *Cercopis* is urgently necessary.

In view of the importance of the generic name *Cercopis* Fabricius, 1775, which forms the basis for the family name CERCOPIDÆ, I regard it as of great importance that the application of this name should be stabilised in accordance with the requirements of the *Règles Internationales de la Nomenclature Zoologique.* I, therefore, request the International Commission on Zoological Nomenclature :—

(1) to place on the *Official List of Generic Names in Zoology* the generic name *Cercopis* Fabricius, 1775 (*Syst. Ent.* : 688) type species, by subsequent selection by Latreille, 1810 (*Consid. gén. Crust. Arach. Ins.* : 434) : *Cicada sanguinolenta* Scopoli, 1763 (*Ent. carn.* : 112) (gender of generic name : feminine).

(2) to place on the *Official List of Specific Trivial Names in Zoology* the trivial name *sanguinolenta* Scopoli, 1763 (as published in the binominal combination *Cicada sanguinolenta*).

Appendix

Particulars of type selections and alleged type selections made for the genus Cercopis *Fabricius*, 1775

(Based upon material furnished by Professor Z. P. Metcalf.)

Date of publication containing a selection or alleged selection of a type species for Cercopis *Fabricius*, 1775. (1)	*Author who selected or who is alleged to have selected a type species for* Cercopis *Fabricius*, 1775. (2)	*Species selected or alleged to have been selected by the author, and in the work, specified in Col.* (2). (3)
1802	*LATREILLE* Histoire naturelle générale et particulière des Crustacés et des Insectes **3** : 260.	*C. spumaria* Fabricius.
1806	*FRORIEP*, L. F. C. Dumeril's. Doctors und Professors an der Medicinischen Schule zu Paris, Analytische Zoologie. Weimar, Landes Industrie-Comptoir : 267.	*C. spumaria* Fabricius.
1810	*LATREILLE* Considerations génerales sur l'ardre naturel des animaux . . . Paris, Schoell : 434.	*C. sanguinolenta* Fabricius.
1833	*CURTIS* British Entomology **10** : 461.	*C. sanguinolenta* Linnaeus.
1840	*WESTWOOD* Synopsis of the genera of British insects **2** : 116.	*C. vulnerata* Rossi.
1844	*BLANCHARD* Dictionnaire universel d'histoire naturelle . . . **3** : 296.	*C. sanguinolenta* Fabricius.
1862	*CURTIS* British Entomology : 461.	*C. sanguinolenta* Linnaeus.
1869	*STÅL* Hemiptera Fabriciana : 11.	*C. carnifex* Fabricius.
1900	*KIRKALDY* "On the nomenclature of the Rhynchota, Heteroptera and Auchenorrhynchous Homoptera." *Entomologist* **33** : 27.	*C. spumaria* Linnaeus.
1900	*KIRKALDY* "On the nomenclature of the genera of the Rhynchota." *Entomologist* **33** : 263.	*C. spumaria* Linnaeus.
1906	*KIRKALDY* "Leafhoppers and their natural enemies." *Bull. Hawaiian Sugar Pl. Assoc. Div. Ent.* **1** : 379, 380.	*C. spumaria* Linnaeus.
1906	*KIRKALDY* "Leafhoppers and their natural enemies." *Bull. Hawaiian Sugar Pl. Assoc. Div. Ent.* **1** : 379.	*C. carnifex* Fabricius.
1910	*SCHMIDT* "Neue Gattungen und Arten der Subfamilie Cercopinae . . ." *Arch. Nat.* **76** : 103.	*C. carnifex* Fabricius.

Date of publication containing a selection or alleged selection of a type species for Cercopis *Fabricius*, 1775. (1)	*Author who selected or who is alleged to have selected a type species for* Cercopis *Fabricius*, 1775. (2)	*Species selected or alleged to have been selected by the author, and in the work, specified in Col.* (2). (3)
1912	*LALLEMAND* "Cercopidae." Gen. Ins. **143** : 58.	*C. spumaria* Fabricius.
1912	*VAN DUZEE* "Hemipterological gleanings." *Bull. Buffalo Soc. Nat. Sci.* **10** : 507.	*C. carnifex* Fabricius.
1921	*JACOBI* "Kritische Bemerkungen uber die Cercopidae." *Arch. Nat.* **87** : 5, 7.	*C. spumaria* Linnaeus.
1921	*JACOBI Ibid.* : 47.	*C. carnifex* Fabricius.
1929	*HAUPT* "Neueinteilung der Homoptera Cicadina . . ." *Zool. Jahrb. Syst. Oek.* **58** : 222.	*C. sanguinolenta* Linnaeus.
1933	*NAST* "Beitrage zur Morphologie und geographischen Verbreitung der mitteleuropaischen und mediterranen Arten aus der sub-familie Cercopinae." *Ann. Mus. Zool. Polonici* **10** : 7—13.	*C. sanguinolenta* Scopoli.
1934	*METCALF and HORTON* "The Cercopoidea of China." *Lingnam Sci. J.* **13** : 417.	*C. spumaria* Linnaeus.
1935	*HAUPT* Die Tierwelt Mitteleuropas **4** : 154.	*C. sanguinolenta* Scopoli.

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Notice to Subscribers

The concluding Part (Part 12) of Volume 1 of the *Bulletin of Zoological Nomenclature* (containing the Title Page, indexes, etc., for that volume) is being published simultaneously with the present Part of Vol. 2.

Form of Applications to the International Commission on Zoological Nomenclature

Zoologists submitting applications to the International Commission on Zoological Nomenclature are requested to submit those applications, in duplicate and typed, double-spaced, on one side of the page only, and with wide margins. Owing to the lack of staff available for copying applications not submitted in the foregoing form, preference for publication in the *Bulletin of Zoological Nomenclature* will necessarily be given to applications submitted in the form requested.

Full particulars of the bibliographical and other data required to be included in applications submitted to the International Commission will be found in the " Instructions to Authors " given on page 88 of Volume 1 of the present journal.

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The publications issued by the International Trust for Zoological Nomenclature on behalf of the International Commission on Zoological Nomenclature are on sale at the Offices of the International Trust for Zoological Nomenclature, 41, Queen's Gate, London, S.W.7. All communications on this subject should be addressed to the Publications Officer.

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The Official Organ of

THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

Edited by

FRANCIS HEMMING, C.M.G., C.B.E.

Secretary to the International Commission on Zoological Nomenclature

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BULLETIN OF ZOOLOGICAL NOMENCLATURE

Volume 2, Part 11 (pp. 305–352) *28th September*, 1951

NOTICES PRESCRIBED BY THE INTERNATIONAL CONGRESS OF ZOOLOGY

1. The following notices are given in pursuance of decisions taken, on the recommendation of the International Commission on Zoological Nomenclature (see 1950, *Bull. zool. Nomencl.* **4** : 51–56, 57–59), by the Thirteenth International Congress of Zoology, Paris, July 1948 (see 1950, *Bull. zool. Nomencl.* **5** : 5–13, 131).

(a) Date of commencement by the international Commission on Zoological Nomenclature of voting on applications published in the " Bulletin of Zoological Nomenclature "

NOTICE is hereby given that normally the International Commission will start to vote upon applications published in the *Bulletin of Zoological Nomenclature* on the expiry of a period of six calendar months from the date of publication in the *Bulletin* of the applications in question. Any specialist who may desire to comment upon any of the applications published in the present Part (vol. 2, Part 11) of the *Bulletin* is accordingly invited to do so, in writing, to the Secretary to the Commission as quickly as possible and in any case in sufficient time to enable the communication in question to reach the Secretariat of the Commission before the expiry of the six-month period referred to above.

(b) Notice of the possible use by the International Commission on Zoological Nomenclature of its plenary powers in certain cases

NOTICE is hereby given that the possible use by the International Commission on Zoological Nomenclature of its plenary powers is involved in applications published in the present Part of the *Bulletin of Zoological Nomenclature* in relation to the following names :—

(1) *Nysius* Dallas, 1852, and *Artheneis* Spinola, 1837 (Class Insecta, Order Hemiptera), proposed designation of type species for (Z.N.(S.)181).

(2) *Xiphosura* Brünnich, 1771, proposed suppression of, and validation of *Limulus* Müller, 1785 (Class Merostomata) (Z.N.(S.)506).

2. In accordance with the procedure agreed upon at the Session held by the International Commission on Zoological Nomenclature in Paris in 1948 (see 1950, *Bull. zool. Nomencl.* **4** : 56), corresponding Notices have been sent to the journals " Nature " and " Science."

FRANCIS HEMMING
Secretary to the International Commission on Zoological Nomenclature

Secretariat of the
International Commission on
Zoological Nomenclature,
28, Park Village East, Regent's Park,
LONDON, N.W.1, England.
28th September, 1951.

REQUEST FOR A RULING THAT THE DISTRIBUTION OF A MICROFILM DOES NOT CONSTITUTE " PUBLICATION " FOR THE PURPOSES OF ARTICLE 25 OF THE "RÈGLES"

Application submitted jointly by the JOINT COMMITTEE ON ZOOLOGICAL NOMENCLATURE FOR PALEONTOLOGY IN AMERICA and by the NOMENCLATURE COMMITTEE OF THE SOCIETY OF SYSTEMATIC ZOOLOGY

(Commission's reference Z.N.(S.)528)

(Letter, with enclosures, dated 6th February 1951, signed jointly by Dr. G. Winston Sinclair (for the Joint Committee on Zoological Nomenclature for Paleontology in America) and Dr. Richard E. Blackwelder (for the Nomenclature Committee, Society of Systematic Zoology).)

We enclose a petition which we would ask you to lay before the Commission for their opinion, and which we would ask you also to publish in the *Bulletin of Zoological Nomenclature.*

We also enclose a list of zoologists who, having seen the petition and studied it, have indicated in writing that they wish to be recorded as supporting it. Dwight Davis (Chicago Natural History Museum) wishes to be recorded as opposing the petition.

Enclosure

Within recent years there has arisen, at least in America, a commerce in copies of books or manuscripts photographically reproduced on 35mm, film, known as " microfilm." This practice was at first a convenience to scholars, who could thus obtain copies of rare or unobtainable works for study and reference, and the microfilm was usually supplied by large libraries.

From this beginning the practice has expanded, until now not only books but unpublished typescripts are being offered for sale, and microfilm is being advertised as a cheap and convenient method of " publishing " scholarly works which (because of their bulk or their lack of general appeal) would not be readily accepted by a regular publishing house. The distribution and offering for sale of such microfilm is held by some, including high academic officers, to constitute publication.

We ask the Commission to rule that, regardless of its status for other purposes material which is available to the public only in the form of microfilm is not to be considered " published " within the meaning of the *Règles.*

Should the Commission prefer to have before them a definite example, may we suggest that the following case be considered :

In 1948 a paper entitled " Pre-Traverse Devonian Pelecypods of Michigan," by Aurele LaRocque, was offered for sale as " University Microfilms Publication 1059," consisting of a microfilm copy of a typescript and accompanying plates of photographs. This offering was advertised to an extensive mailing-list of libraries and others, and the paper has been available to the public in this form since 1948.

In 1950 the same paper was issued in printed form as : Contributions from the Museum of Paleontology, University of Michigan, Volume 7, No. 10, (pp. 271-366, 19 plates).

In this paper (in both forms) are described three new genera and fourteen new species of pelecypods.

We ask the Commission to rule that the names of these new taxonomic units are to be ignored until their appearance in printed form in 1950.

Annex to Enclosure

Annex to Enclosure.

List of zoologists supporting the petition :

Joint Committee on Zoological Nomenclature for Paleontology in America. Members individually polled and unanimous in support, viz. :

Raymond C. Moore, University of Kansas, Lawrence
A. S. Romer, Museum of Comparative Zoology, Cambridge, Mass.
David H. Dunkle, U.S. National Museum, Washington
S. W. Muller, Stanford University, California
J. Marvin Weller, Walker Museum, University of Chicago
John B. Reeside, Jr., U.S. Geological Survey, Washington
D. L. Frizzell, Rolla, Missouri
A. Myra Keen, Stanford University, California
Katherine V. W. Palmer, Ithaca, New York
J. Brookes Knight, U.S. National Museum, Washington
John W. Wells, Cornell University, Ithaca, New York
G. Winston Sinclair, University of Michigan, Ann Arbor.

Individual zoologists in Chicago, in favour of the petition :

Karl P. Schmidt
Fritz Haas
Bryan Patterson
Rainer Zangerl
Rupert Wenzel
William Beecher
Henry S. Dybas
Robert H. Denison
Robert F. Inger
Emmett R. Blake
Austin L. Rand
Melvin A. Taylor, Jr.
Colin Campbell Sanborn
Eugene S. Richardson, Jr.

Nomenclature Committee, Society of Systematic Zoology Members, individually polled ; all replies were approval :

Ernst Mayr, American Museum Natural History
Robert R. Miller, Univ. of Michigan
Robert L. Usinger, Univ. of California
John W. Wells, Cornell Univ.
Ellsworth C. Dougherty, Univ. of California
J. Brookes Knight, U.S. National Museum
E. Raymond Hall, Univ. of Kansas
Richard E. Blackwelder, U.S. National Museum.

SUPPORT FOR THE REQUEST SUBMITTED TO THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE FOR A RULING THAT THE DISTRIBUTION OF A SCIENTIFIC PAPER ON MICROFILM DOES NOT CONSTITUTE PUBLICATION FOR THE PURPOSES OF ARTICLE 25 OF THE " RÈGLES "

Communication received from the COMMITTEE ON NOMENCLATURE OF THE AMERICAN MUSEUM OF NATURAL HISTORY, NEW YORK

(Commission's reference Z.N.(S.)528)

(Letter dated 7th May, 1951)

The Committee on Nomenclature of the Scientific Staff of the American Museum of Natural History has noted the petition addressed to the International Commission on Zoological Nomenclature concerning the publication of zoological names on microfilm. This Committee has unanimously approved of the measures proposed in the said petition (as published in *Science*, vol. **113**, p. 466, 1951) and would join in the recommendation that the names in " Pre-Traverse Devonian Pelecypods of Michigan " by Aurele LaRoque, be ignored until their appearance in printed form in 1950, and that all material that is available to the public only in the form of microfilm be considered as not published within the meaning of the *Règles*. We would further suggest that it be specifically noted that subsequent authentic publication does not validate the earlier appearance on microfilm.

Committee on Nomenclature :
Mont A. Cazier
Edwin H. Colbert
Norman D. Newall
George H. H. Tate
John T. Zimmer (*Chairman*)

ON THE REQUEST SUBMITTED TO THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE FOR A RULING THAT THE DISTRIBUTION OF A SCIENTIFIC PAPER ON MICROFILM DOES NOT CONSTITUTE "PUBLICATION" FOR THE PURPOSES OF ARTICLE 25 OF THE "RÈGLES"

By CHARLES H. BLAKE
(*Department of Biology, Massachusetts Institute of Technology, Cambridge, Mass., U.S.A.*)

Commission's reference Z.N.(S.)528)

(Letter dated 30th April, 1951)

In *Science* for 20 April, 1951, I find a petition submitted by Messrs. Sinclair and Blackwelder. I find myself in opposition to the petition, at least in so far as it seems clear what grounds are used as a basis for it.

(1) Letter press printing, or its sensible equivalents such as photo-offset, are not an integral or necessary part of publication.

(2) All that seems necessary in publication is that copies shall be available to the interested public and that the copies shall all be clearly identical. Both of these qualifications appear to be inherent in the microfilm publication complained of.

(3) It is evidently intended that these microfilms will constitute publications and are not restricted as manifolded manuscript. The petition itself notes that they are advertised to an extensive list of persons and libraries.

(4) There appears to be no reason why the author of one of these microfilm publications should not distribute separates of it in the fashion of printed matter.

(5) I can say from personal experience that no special reading machine is actually needed to handle microfilm ; any zoological laboratory can read it with an ordinary dissecting microscope.

(6) Although not offered as an objection to microfilm in the present petition, I have been told that some object that the quality of the reproduction is not sufficiently high. Personal experience with microfilm indicates that, when properly made and properly enlarged in a magnifier, the figures are at least the equal of many that find their way into the printed literature.

ON THE REQUEST TO THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE FOR A RULING THAT THE DISTRIBUTION OF A SCIENTIFIC PAPER ON MICROFILM DOES NOT CONSTITUTE " PUBLICATION" FOR THE PURPOSES OF ARTICLE 25 OF THE " RÈGLES "

By E. H. BEHRE
(Louisana State University and Agricultural and Mechanical College, University Station, Baton Rouge, Louisiana, U.S.A.)

(Commission's reference Z.N.(S.)528)

(Letter dated 4th May, 1951)

The occasion of the petition to your body from the Joint Committee on Zoological Nomenclature for Paleontology in America, and the Nomenclature Committee of the Society of Systematic Zoology determines me to add my words to those of other zoologists. I wish most emphatically to support the petition of these Committees, the Joint Committee on Zoological Nomenclature for Paleontology in America and the Nomenclature Committee of the Society of Systematic Zoology. I do not have, at hand, an immediate example of such clarity as is offered in the committees' petition ; but I, myself, am confident that in the course of a short time such examples will appear in many specific fields. It is indeed a critical issue and one which should be clarified as promptly as possible before the resulting confusions accumulate in literature.

SUPPORT FOR THE PROPOSAL THAT THE DISTRIBUTION OF SCIENTIFIC PAPERS ON MICROFILMS SHOULD BE RULED AS NOT CONSTITUTING PUBLICATION FOR THE PURPOSES OF ARTICLE 25 OF THE "RÈGLES"

By the " ZOOLOGICAL RECORD " COMMITTEE OF THE ZOOLOGICAL SOCIETY OF LONDON

(Commission's reference Z.N.(S.)528)

(Letter dated 18th July, 1951, from Dr. Sheffield A. Neave, Chairman, " Zoological Record " Committee of the Zoological Society of London)

At its meeting held on Tuesday, 17th July, the " Zoological Record " Committee, the body entrusted by the Zoological Society of London with responsibility for supervising and determining on its behalf all matters relating to the publication of the *Zoological Record*, had under consideration the practice adopted on one or two recent occasions of giving publicity to new scientific names in microfilms containing the text of, or summaries of, as yet unpublished papers and, in particular, the question whether the giving of publicity to a new name by the distribution of microfilms in which it appears was to be regarded as constituting the publication of that name for the purposes of Article 25 of the *Règles Internationales* and therefore as entitling the name in question to be recorded in the *Zoological Record* as having been published as from the date on which the microfilm containing that name was placed on sale or otherwise distributed.

The " Zoological Record " Committee asked me, as its Chairman, to convey to the International Commission on Zoological Nomenclature their emphatic view that the distribution of microfilms containing new names is open to the strongest possible objection and represents a procedure which, if countenanced, could not fail to give rise to the most serious confusion in zoological nomenclature. In the opinion of the Committee, it is highly important that this objectionable practice should be nipped in the bud before it has had time to give rise to serious difficulties.

For the foregoing reasons the Committee adopted the following Resolution :

> The " Zoological Record " Committee emphatically associates itself with the proposal which it understands has already been submitted jointly by the Joint Committee on Zoological Nomenclature for Paleontology in America and the Nomenclature Committee of the Society of Systematic Zoology that the International Commission on Zoological Nomenclature should at the earliest possible date give a ruling that the distribution in microfilm of a paper containing a new scientific name does not constitute the publication, for the purposes of the *Règles Internationales*, of the new names included in such microfilms and therefore that no scientific name given publicity by this means thereby acquires any rights under the Law of Priority. The " Zoological Record " Committee further recommends that the International Commission should at the same time adopt a " Declaration " strongly condemning the use of microfilms for giving publicity for

unpublished scientific names and proposing that the International Congress of Zoology should be asked at Copenhagen in 1953 to insert a " Recommandation " in the *Règles* in the foregoing sense.

The meeting of the Zoological Record Committee at which the foregoing Resolutions were adopted was attended by: Dr. Sheffield A. Neave, C.M.G., O.B.E., D.Sc. (*Chairman*); Dr. William J. Hall, M.C., D.Sc.; Mr. Francis Hemming, C.M.G., C.B.E.; Sir Norman Kinnear, C.B.; Mr. Terence Morrison-Scott, D.S.C., M.A., M.Sc.; Dr. Malcolm Smith, M.R.C.S., L.R.C.P.; Dr. C. J. Stubblefield, D.Sc., F.R.S.; Dr. L. Harrison Matthews, Sc.D. (*Scientific Director and Deputy Secretary, Zoological Society of London*).

ON DR. L. R. COX'S PROPOSAL THAT S. A. RENIER'S "PRODROMO" AND THE "PROSPETTO DELLA CLASSE DEI VERMI" SHOULD BE DECLARED NOT TO HAVE BEEN PUBLISHED WITHIN THE MEANING OF ARTICLE 25 OF THE "RÈGLES"

By the late R. WINCKWORTH (*London*)

(Commission's reference Z.N.(S.)432)

(Extract from a letter dated 10th November, 1949)

I want to thank you for your letter of 2nd November about Cox's application[2] that the International Commission should give a ruling that S. A. Renier's *Prodromo* and the *Prospetto della Classe dei Vermi* was not published within the meaning of Article 25 of the *Règles*, and to say that I entirely concur with the proposals submitted.

---

[2] See pp. 299-300 of the present volume.

PROPOSED USE OF THE PLENARY POWERS TO DESIGNATE TYPE SPECIES FOR THE GENERA "NYSIUS" DALLAS, 1852, AND "ARTHENEIS" SPINOLA, 1837 (CLASS INSECTA, ORDER HEMIPTERA)

By R. L. USINGER (*United States Public Health Service*) and R. I. SAILER (*United States Department of Agriculture, Washington, D.C., U.S.A.*)

(Commission's reference Z.N.(S.)181)

China (1943, *The Generic Names of British Insects*, pt. 8 : 236), has shown that, under the International Rules of Zoological Nomenclature the name *Nysius* Dallas, 1852 (*List Specimens Hem. Ins. Coll. Brit. Mus.* **2** : 551), is not applicable to the genus universally known under that name. Through an oversight China cited *Macroparius* Stål, 1872 (*Ofvers. VetenskAkad. Förhandl.*, Stockholm **29** : 43), as the correct name instead of *Artheneis* Spinola, 1837 (*Ess. Ins. Hémipt.* : 250), which he listed as a synonym. In subsequent correspondence he agreed that the latter name must be employed for this genus of LYGAEIDAE. Unfortunately, this change would produce much confusion in literature of economic entomology since the name *Nysius* has become virtually synonymous with " false chinch bug " and " Rutherglen bug," two important pests of agricultural crops in Europe, North America, and Australia. It seems advisable, therefore, to request the International Commission on Zoological Nomenclature to take appropriate action under suspension of the Rules in order to maintain *Nysius* for the genus of bugs to which it has long been applied.

The change to either *Macroparius* or *Artheneis* is not made necessary through any misconception of the groups involved but simply through two unfortunate type selections. Distant (1903), ignoring the carefully defined subgenera of Stål (1874, (*Enum. Hemipt.* **4** : 119–122,) and Horváth (1890, *Rev. Ent.* **9** : 185–191) considered the genus *Nysius* as a unit and selected *Nysius zealandicus* Dallas, 1852, as its type species. *N. zealandicus* has previously been set apart by Stål (in 1868 (*K. svensk. Vetensk Akad. Handl.*, Stockholm (n.f.) **7** (No. 11) : 76) in a monotypic subgenus, *Rhypodes*, and *Nysius* was used for the cosmopolitan group including *Lygaeus thymi* Wolff, 1804 (*Icon. Cimicum* (4) : 149) and its allies. This did not exclude *zealandicus* from consideration as the type species of *Nysius*, since Dallas included it as one of the original species. Distant continued to use the name *Nysius* for the false chinch bug and its allies until his death. However, Evans (1929) raised most of the subgenera, including *Rhypodes*, to full genera. This should have precipitated the matter, because the name *Nysius* should have been used in place of *Rhypodes*, and the next oldest synonym should have been selected for *Nysius* auct. *nec* Dallas. However, Distant's type selection was overlooked, and it remained for Dr. China to point out the nomenclatural inconsistency in 1943.

Meanwhile, Kirkaldy (1909) noted that, as Spinola himself had suggested, *Artheneis* Spinola, 1837 (a common European genus and the type of the subfamily ARTHENEINAE), actually comprised two genera. Instead of following general usage and selecting *Artheneis foveolata* Spinola, 1837 (*Ess. Ins. Hémipt.* : 253) as the type species of *Artheneis*, Kirkaldy cited "(type *eymoides*), = *Nysius*

Dallas, 1852 " [sic], thus confusing the *Nysius* picture and necessitating a new name, *Tyrrheneis*, which he proposed (1909, *Canad. Ent.* **41** : 31) for *Artheneis* auct., *nec* Kirkaldy. It is not clear whether Kirkaldy intended to replace *Nysius* with *Artheneis* or not. He described many new species of *Nysius* in 1910 but the paper was published posthumously. We have seen no evidence in his published works or in his private collection to indicate that he contemplated a change in the name *Nysius*.

Oshanin (1912) ignored the earlier type fixations and selected type species designed to legalize current usage. Oshanin's type selections were accepted by Van Duzee in his " Check List " (1916) and " Catalogue " (1917) and have been generally, though incorrectly, accepted by hemipterists up to the present time.

Thus we are faced with a situation in which two authors selected type species which completely upset existing usage. The changes were entirely unnecessary and it seems clear that the authors had no intention of changing anything, because they failed to make the changes in their own subsequent work. Under the Rules their intentions are, of course, of no consequence, but considered in connection with the economic importance of the group and the universal acceptance of the names in current usage, it seems justifiable to consider action under suspension of the Rules which would permit retention of the name *Nysius* for the concept with which it has been universally associated.

We, therefore, respectfully recommend that the International Commission on Zoological Nomenclature exercise the plenary power conferred on it by the International Congress of Zoology and that the following actions be taken :

(1) Reject Distant's (1903) selection of *Nysius zealandicus* Dallas, 1852, in favour of Oshanin's (1912) selection of *Lygaeus thymi* Wolff, 1804, as the type species of *Nysius* Dallas, 1852.

(2) Reject Kirkaldy's (1909) selection of *Artheneis cymoides* Spinola, 1837, in favour of Oshanin's (1912) selection of *Artheneis foveolata* Spinola, 1837, as the type species of *Artheneis* Spinola, 1837.

(3) Place the generic names *Nysius* Dallas, 1852, and *Artheneis* Spinola, 1837, with the respective type species specified above on the *Official List of Generic Names in Zoology*, together with the generic name *Rhypodes* Stål, 1868 (type species by monotypy : *Nysius zealandicus* Dallas, 1852).

Conclusions

Suppression of the Distant and Kirkaldy type selections will result in the following :

Nysius Dallas, 1852, type species *Lygaeus thymi* Wolff, 1804 = *Macroparius* Stål, 1872, type species *Heterogaster graminicola* Kolenati, 1846.

Rhypodes Stål, 1868, type species, *Nysius zealandicus* Dallas, 1852 = *Lygaeus clavicornis* Fabricius, 1794, (*Ent. syst.* **4** : 169) = (*Myersia* Evans, 1929 *Bull. ent. Res.* **19** : 353), type species *Lygaeus clavicornis* Fabricius, 1794.

Artheneis Spinola, 1837, type species, *Artheneis foveolata* Spinola, 1837 = *Tyrrheneis* Kirkaldy, 1900, type species *Artheneis foveolata* Spinola, 1837.

ON THE APPLICATION FOR THE USE OF THE PLENARY POWERS TO DESIGNATE TYPE SPECIES FOR THE GENERA " NYSIUS " DALLAS, 1852, AND " ARTHENEIS " SPINOLA, 1837 (CLASS INSECTA, ORDER HEMIPTERA) SUBMITTED BY PROFESSOR ROBERT L. USINGER AND DR. R. I. SAILER

By FRANCIS HEMMING, C.M.G., C.B.E.

(*Secretary to the International Commission on Zoological Nomenclature*)

(Commission's reference Z.N.(S.)181)

1. The application to the International Commission on Zoological Nomenclature for the use of the plenary powers for the purpose of varying the type species of the genera *Nysius* Dallas, 1852, and *Artheneis* Spinola, 1837, prepared jointly by Professor Robert L. Usinger (University of California, Berkeley, California, at that time of the United States Public Health Service) and Dr. R. I. Sailor (United States National Museum, Washington, D.C.) was received on 15th February, 1945, under cover of a letter from Dr. Sailor, dated 12th January, 1945. This application had already (December 1944) been published by these authors (*Proc. ent. Soc. Wash.* **46** : 260-262). Unfortunately, wartime and post-war difficulties, including an unavoidable change in the Commission's printers, made it impossible to publish this application before the meeting of the International Congress of Zoology in Paris in 1948, while since then it was necessary until recently to husband the financial resources of the Commission to secure the publication of the volumes of the *Bulletin of Zoological Nomenclature* containing the Paris records.

2. Three decisions taken by the Paris Congress slightly affect the present application, namely the establishment of the *Official List of Specific Trivial Names in Zoology* and the *Official Index of Rejected and Invalid Generic Names in Zoology*. Under the first of those decisions there are to be inscribed on the *Official List of Specific Trivial Names in Zoology*, among other trivial names, the trivial names of the type species of each genus, the name of which is placed on the *Official List of Generic Names in Zoology*, except where such a trivial name is not the oldest available trivial name for the species in question. In such a case the oldest such trivial name is to be placed on the *Official List* in lieu of the trivial name of the nominal species which is the type species of the genus concerned (1950, *Bull. zool. Nomencl.* **4** : 269-271, 283-284). Under the second of these decisions, there are to be added to the *Official Index* names suppressed by the Commission or declared by the Commission to be invalid. Under the third of these decisions, it is necessary now to record the gender of every generic name placed on the *Official List.*

3. Applying these decisions to the present case, we find that, if the Commission approve the proposals set forth in Professor Usinger's and Dr. Sailor's application, the trivial names *thymi* Wolff, 1804 (as published in the binominal combination *Lygaeus thymi*) (which in that event will have become the type species of *Nysius* Dallas, 1852) and *foveolata* Spinolá, 1837 (as published in the binominal combination *Artheneis foveolata*) (which in that event will have become the type species of *Artheneis* Spinola, 1837) will require to be placed on the *Official List of Specific Trivial Names in Zoology.* The trivial name (*zealandicus* Dallas, 1852, as published in the binominal combination *Nysius zealandicus*) of the type species of *Rhypodes* Stål, 1868, will not be added to the *Official List*, since it is not regarded by specialists as the oldest available trivial name for the species in question ; the later name *clavicornis* Fabricius, 1794 (as published in the binominal combination *Lygaeus clavicornis*), that being, as Professor Usinger and Dr. Sailor explain, the trivial name now regarded by specialists as the oldest such name either subjectively or objectively available for the species in question, will, however, need to be placed on the *Official List.* Under the decision (under the plenary powers) recommended by Professor Usinger and Dr. Sailor, the generic name *Tyrrheneis* Kirkaldy, 1909, will become an objective junior synonym of *Artheneis* Spinola, 1837 (the two genera having the same species as their respective type species) and will need therefore to be placed on the *Official Index of Rejected and Invalid Generic Names in Zoology.* In their application Professor Usinger and Dr. Sailor point out that the generic name *Myersia* Evans, 1929 (*Bull. ent. Res.* **19** : 353) is a subjective junior synonym of *Rhypodes* Stål, 1868. In addition, it may be noted that the name *Myersia* Evans, 1929, is a junior homonym of *Myersia* Viereck, 1912 (*Proc. U.S. nat. Mus.* **43** (No. 1942) : 575) ; as such, it should therefore also be placed on the *Official Index.*

4. As regards the form of action under the plenary powers which would be necessary to secure the objects sought by Professor Usinger and Dr. Sailor, it may be recalled that at its Session held in Lisbon in 1935 the International Commission on Zoological Nomenclature took a decision on procedure in cases of this kind, when considering a long list of applications relating to the type species of genera in the Order Hymenoptera submitted by Professor J. Chester Bradley (1943, *Bull. zool. Nomencl.* **1** : 27-30). In view of the risk that, concealed in the literature there might be some undetected type selection which, if not suppressed, might nullify the result sought to be obtained by the use of the plenary powers, if those powers were to be used solely to suppress some type designation or type selection that it was known would create confusion unless suppressed, the Commission formed the conclusion that it would be preferable to set aside all type selections made prior to the decision in question and itself to designate whatever species it was desired should be the type species of the genera in question. The advantages of this procedure are so clear that it has since become the standard practice in all cases of this kind.

5. In the light of the foregoing considerations, it may be convenient to summarise as follows the action which the International Commission on Zoological Nomenclature would need to take, in the event of its deciding to meet the substance of the application submitted to it in this matter, namely :—

(1) to use its plenary powers to set aside all type selections for the undermentioned genera made prior to the decision now proposed to be

taken and to designate the species specified below to be the type species of the genera concerned :—

Name of genus (1)	*Nominal species proposed to be designated as the type species of the genus specified in Col.* (1) (2)
(*a*) *Nysius* Dallas, 1852	*Lygaeus thymi* Wolff, 1804
(*b*) *Artheneis* Spinola, 1837	*Artheneis foveolata* Spinola, 1837

(2) to place the under-mentioned generic names on the *Official List of Generic Names in Zoology* :—

- (*a*) *Nysius* Dallas, 1852 (gender of generic name : masculine) (type species, by designation, as proposed in (1) (*a*) above, under the plenary powers : *Lygaeus thymi* Wolff, 1804) ;
- (*b*) *Artheneis* Spinola, 1837 (gender of generic name : feminine) (type species, by designation, as proposed in (1) (*b*) above, under the plenary powers : *Artheneis foveolata* Spinola, 1837) ;
- (*c*) *Rhypodes* Stål, 1868 (gender of generic name : masculine) (type species, by monotypy : *Nysius zealandicus* Dallas, 1852) ;

(3) to place the under-mentioned trivial names on the *Official List of Specific Trivial Names in Zoology* :—

- (*a*) *thymi* Wolff, 1804 (as published in the binominal combination *Lygaeus thymi*) (trivial name of species proposed, under (1) (*a*) above to be designated under the plenary powers as type species of *Nysius* Dallas, 1852) ;
- (*b*) *foveolata* Spinola, 1837 (as published in the binominal combination *Artheneis foveolata*) (trivial name of species proposed, under (1) (*b*) above, to be designated under the plenary powers as type species of *Artheneis* Spinola, 1837) ;
- (*c*) *clavicornis* Fabricius, 1794 (as published in the binominal combination *Lygaeus clavicornis*) ;

(4) to place the under-mentioned generic names on the *Official Index of Rejected and Invalid Generic Names in Zoology* :—

- (*a*) *Tyrrheneis* Kirkaldy, 1909 (an objective synonym of *Artheneis* Spinola, 1837, under the decision proposed in (1) (*b*) above) ;
- (*b*) *Myersia* Evans, 1929 (a junior homonym of *Rhypodes* Stål, 1868).

ON THE PROPOSED USE OF THE PLENARY POWERS TO DESIGNATE TYPE SPECIES FOR " NYSIUS " DALLAS, 1852, AND " ARTHENEIS " SPINOLA, 1837 (CLASS INSECTA, ORDER HEMIPTERA) : SUPPORT FOR THE PROPOSALS SUBMITTED BY PROFESSOR ROBERT L. USINGER AND DR. R. I. SAILER

By W. E. CHINA, Sc.D.

(*Deputy Keeper, Department of Entomology, British Museum (Natural History), London*)

(Commission's reference Z.N.(S.)181)

(Enclosure to a letter dated 30th May, 1951)

In my paper on the generic names of the British Heteroptera (1943, *The gen. Names brit. Ins.* (8) : 237) I pointed out (Note 1 to genus 2) that Distant (1903, *Faun. brit. India*, Rhyn. **2** : 17) was the first author validly to fix the type species of the genus *Nysius* Dallas, 1852 (*List Spec. hemipt. Ins. Coll. Brit. Mus.* **2** : 551). In consequence the generic name *Rhypodes* Stal, 1868 (with type species *Nysius zealandicus* Dallas) became a synonym of *Nysius* Dallas, 1852, while *Nysius* auctt. *nec* Dallas had to take the next available name. By an extraordinary *lapsus*, I selected the relatively modern name *Macroparius* Stål, 1872 (type species : *Heterogaster* [sic] *graminicola* Kolenati), leaving the much older name *Artheneis* Spinola, 1837 (type species : *Artheneis cymoides* Spinola) as a synonym. By this mistaken sinking of *Artheneis* under *Macroparius*, I overlooked the serious consequences of transferring the type genus of the Lygaeid subfamily ARTHENEINAE to another subfamily (LYGAEINAE) and even kept the subfamily name ARTHENEINAE on page 238. The fact that the old genus *Artheneis* (type species : *A. foveolata* Spinola) does not occur in Britain made this error possible, as in my paper I tended to skim over non-British genera. When my attention was drawn to this slip by Dr. R. L. Usinger, I at once agreed with him that the case would have to be submitted to the International Commission on Zoological Nomenclature, in order to preserve the name of the type genus of the ARTHENEINAE and the well-known generic concept *Nysius*. This case was set out by Usinger and Sailer in 1944 (*Proc. ent. Soc. Wash.* **46** (9) : 260-262) and I herewith express my complete concurrence with their opinions.

PROPOSED USE OF THE PLENARY POWERS TO VALIDATE THE ENTRY ON THE "OFFICIAL LIST OF GENERIC NAMES IN ZOOLOGY" OF THE NAME "LIMULUS" MÜLLER, 1785 (CLASS MEROSTOMATA*): PROPOSED CORRECTION OF AN ERROR IN "OPINION" 104

By LEIF STØRMER
(*Paleontologisk Institut, Oslo, Norway*)

(Commission's reference Z.N.(S.)506)

1. The object of the present applicationis to obtain from the International Commission on Zoological Nomenclature the use of its plenary powers for the purpose of suppressing the generic name *Xiphosura* Brünnich, 1771, in order thereby to render the name *Limulus* Müller, 1785 (Class Merostomata*) the oldest available name for, and therefore the valid name of, the genus now habitually known by that name. From the point of view of the present applicant, who is engaged in preparing the chapter on Merostomata for the forthcoming international *Treatise on Invertebrate Paleontology*, the present case is one of exceptional urgency, for it is essential that a decision should be provided on the issue now submitted in time for it to be included in the relevant portion of the *Treatise*. It is particularly hoped, therefore, that it will be possible for the International Commission to reach a very early decision on the present application.

2. The facts of this case are as follows : In 1928, in *Opinion* 104 (*Smithson. miscel. Coll.* **73** (No. 5) : 25) the International Commission on Zoological Nomenclature placed on the *Official List of Generic Names in Zoology* the generic name *Limulus* Müller (O.F.), 1785 (type species, by monotypy : *Monoculus polyphemus* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 634). This extremely well-known name, which was then in universal use—as it still is today—was regarded not only as a nomenclatorially valid name, but also as the oldest available name for the genus in question. In 1940, however, the late R. Winckworth submitted a request to the International Commission (*Bull. zool. Nomencl.* **1** : 113-117) for a ruling on the question whether in his *Zoologiae Fundamenta* (then believed to have been published in 1772, but now known to have been first published in 1771) Brünnich had applied the principles of binominal nomenclature. Winckworth pointed out that, if the Commission were to give an affirmative answer to the foregoing question, there were a number of generic names which would in future rank for priority as from the *Zool. Fund.* and that one of these names, *Xiphosura* Brünnich (: 208), was older than, and would replace, the well-known name *Limulus* Müller, 1785. At Paris in 1948 the International Commission ruled in favour of the availability of the names in Brünnich's *Zoologiae Fundamenta*, holding the view that in this work Brünnich had duly complied with the requirements of Proviso (b) to Article 25 of the *Règles* (see 1950, *Bull. zool. Nomencl.* **4** : 307-310).

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* Or Class Arachnida.

3. Having reached this general decision, the International Commission turned to consider the new names in the *Fundamenta* of Brünnich, of which it now became necessary to take account. When the Commission reached the name *Xiphosura* Brünnich, the Acting President (Mr. Francis Hemming) drew attention to the fact that the acceptance of this generic name would be objectionable from two points of view (1950, *loc. cit.* **4** : 311-312). First, that name, if accepted, would displace the time-honoured name *Limulus* Müller, which, moreover, had already been on the *Official List* for twenty years ; second, the use of this word as a generic name would be confusing, in view of the fact that it was in general use as the name of the Order to which this genus belonged. The Commission did not feel able on that occasion to reach a decision on this question, but agreed that as soon as possible after the close of the Paris Congress consideration should be given to the question whether or not the plenary powers should be used for the purpose of validating the generic name *Limulus* Müller and thereby of regularising the position of that name on the *Official List* (1950, *loc. cit.* **4** : 312). At the same time the Commission asked the Secretary to confer with specialists and, having done so, to submit a Report to the Commission for consideration.

4. It will be seen, therefore, that the subject of the present application is one to which the Commission has already given preliminary consideration and on which it has asked for the views of specialists. Thus, the present application, although prompted mainly by a different object, namely a desire to obtain a decision needed for the preparation of the *Treatise on Invertebrate Paleontology*, will serve also to provide a basis for the consideration of the question to which the Commission gave special consideration in Paris, namely whether the position on the *Official List* of the name *Limulus* Müller should be regularised or, alternatively, whether that name should be removed from the *Official List*, the name *Xiphosura* Brünnich being added thereto in its place.

5. As has already been explained, the generic name *Limulus* Müller is in general use for the genus to which it was first applied by Müller, one hundred and sixty-six years ago. It is true that in 1902 (*Ann. Mag. nat. Hist.* (7) **9** : 260) Pocock sought to replace the name *Limulus* Müller by the older name *Xiphosura* Gronovius, 1764 (*Zoophylac. gron.* **2** : 220) but this proposal of his won no support from other workers. Moreover, the *Zoophylacium gronovianum*, as from which Pocock dated the name *Xiphosura* was written by an author (Gronovius) who, though a so-called " binary " author, did not apply the principles of binominal nomenclature. At the time that Pocock wrote his paper there was room for argument whether a generic name published by such an author possessed any status in zoological nomenclature and this doubt persisted until 1948 when the International Congress of Zoology made it quite clear that such names possess no status in zoological nomenclature, by deleting the ambiguous expression " nomenclature binaire " from the *Règles*, inserting in its place the perfectly definite expression " nomenclature binominale " (1950, *Bull. zool. Nomencl.* **4** : 63-66). It is now perfectly clear that the alleged generic name *Xiphosura* Gronovius, 1764, possesses no standing in zoological nomenclature. This objection does not however apply to the name *Xiphosura* Brünnich, 1771, which is undoubtedly an available name. In view of the current general acceptance of the generic name *Limulus* Müller and the long period in which it has been in use, the desirability of promoting stability in nomenclature points strongly in favour of the preservation of the name *Limulus* Müller, as against the name *Xiphosura* Brünnich. These considerations are enormously strengthened by the fact that for over twenty years the name *Limulus* Müller has occupied an unchallenged position on the *Official List of Generic Names in Zoology*. The arguments would need to be very strong to justify the dethronement of the name *Limulus* Müller for the benefit of the unknown name *Xiphosura* Brünnich. In actual fact there are no arguments that can be advanced in favour of the overthrow of existing practice in this matter, apart from that based on the consideration that Brünnich's name *Xiphosura* was published fourteen years before Müller's name *Limulus*. The Law of Priority possesses many important merits, but it is important always to remember that that Law was fashioned to promote stability and uniformity in nomenclature and consequently that the purpose of that Law is defeated if, by an unduly rigid application of its provisions, it is allowed to become an instrument for overturning well-established nomenclatorial practice. There are therefore very strong grounds in favour of the use by the International Commission of its plenary powers to preserve the name *Limulus* Müller.

6. This matter is not, however, the sole concern of the student of the taxonomy of the living and fossil forms concerned. For the name *Limulus* Müller is deeply embedded in the literature of the morphology and ontogeny of this interesting group, and to the workers in the field of applied biology changes of well-known names for narrow technical reasons of a purely nomenclatorial character are peculiarly irritating and incomprehensible. Moreover, the International Congress of Zoology has given express directions that the interests of this class of worker are to be given special consideration by the International Commission in considering cases involving the possible displacement of well-known names (*see*, 1950, *Bull. zool. Nomencl.* **4** : 234-235). For this reason also it is highly desirable that the International Commission should use its plenary powers to prevent the supercession of the name *Limulus* Müller.

7. Finally, it must be observed that (as was pointed out in the discussion of this case in Paris) we are confronted here also with a reason of quite a different kind which would make it most undesirable that the name *Xiphosura* Brünnich should replace the name *Limulus* Müller. This is because the word (Xiphosura) of which Brünnich's name consists or derivatives of that word are commonly used to denote the higher categories to which the genus now known as *Limulus* belongs. Thus, according to the taxonomic view taken of the categories which should be recognised, the word " Xiphosura " is in use as the name of the Sub-Class or Order concerned, while the word " Xiphosurida " is used as the name of the Order. The Commission has ruled (in *Opinion* 102) that a generic name is not invalidated by the prior use, as an ordinal name, of the word of which that generic name is composed and this provision has since been incorporated in the *Règles* ; in deciding so to codify this provision, the International Congress of Zoology decided also to insert a *Recommandation* deprecating the selection, as generic names, of words previously used as the names of units of Sub-Ordinal or higher category (1950, *Bull. zool.*

Nomencl. **4** : 164-165). In the present case, the use of the word " Xiphosura " as a generic name could not fail to give rise to confusion in the nomenclature of this group, and it is therfore extremely desirable from this point of view alone that the Commission should use its plenary powers to suppress the generic name *Xiphosura* Brünnich, 1771.

8. For the reasons set forth above, I ask the International Commission on Zoological Nomenclature :—

(1) to use its plenary powers to suppress the generic name *Xiphosura* Brünnich, 1771, for the purposes of the Law of Priority, but not for those of the Law of Homonymy ;

(2) in view of (1) above, to confirm the generic name *Limulus* Müller, 1785, on the *Official List of Generic Names in Zoology* ;

(3) to place the under-mentioned generic names or reputed generic names on the *Official Index of Rejected and Invalid Generic Names in Zoology* :-

    (*a*) *Xiphosura* Gronovius, 1764 (an invalid name because published by an author who did not apply the principles of binominal nomenclature) ;

    (*b*) *Xiphosura* Brünnich, 1771 (a name proposed, under (1) above, to be suppressed under the plenary powers) ;

(4) to place on the *Official List of Specific Trivial Names in Zology* the trivial name *polyphemus* Linnaeus, 1758 (as published in the binominal combination *Monoculus polyphemus*) (trivial name of the type species of *Limulus* Müller, 1785).

ON THE QUESTION WHETHER IT IS DESIRABLE THAT THE GENERIC NAME " LIMULUS " MÜLLER, 1785, SHOULD BE VALIDATED UNDER THE PLENARY POWERS AND CONFIRMED IN ITS POSITION ON THE " OFFICIAL LIST OF GENERIC NAMES IN ZOOLOGY "

By H. MUNRO FOX, F.R.S.

(*London University, Bedford College, London*)

(Commission's reference Z.N.(S.)506)

(Extract from a letter dated 12th March, 1951)

I am strongly of the opinion that the generic name *Limulus* Müller should be validated and confirmed on the *Official List of Generic Names in Zoology.* The contrary course would be most undesirable both because of text-book usage and because of the undesirability of removing a name from the *Official List.*

SUPPORT FOR THE PROPOSAL THAT THE NAME "LIMULUS" MÜLLER, 1785 (CLASS MEROSTOMATA) SHOULD BE VALIDATED UNDER THE PLENARY POWERS AND CONFIRMED ON THE "OFFICIAL LIST OF GENERIC NAMES IN ZOOLOGY"

By CARL O. DUNBAR

(*Yale University, Peabody Museum of Natural History, New Haven, Conn., U.S.A.*)

(Commission's reference Z.N.(S.)506)

(Extract from a letter dated 23rd May, 1951)

I think that both the *Official List of Generic Names* and the provision for the use of the plenary powers are desirable as a proper means of escape from unnecessary confusion, sometimes produced by rigid application of the rule of priority, against which a good many systematists are inclined to rebel. It would seem to me therefore that the name *Limulus* Müller, having been established by being placed on the *Official List*, cannot be displaced by *Xiphosura* Brünnich unless the Commission saw fit to take the positive action of removing it from the *List*.

As for the merits of the case, I believe no useful purpose would be gained by replacing the name *Limulus* which is so well established in the literature of the world. On the other hand, definite confusion would result from use of the name *Xiphosura* for a genus within the Order Xiphosura.

ON THE QUESTION OF THE TYPE SPECIES OF "GRYPHAEA" LAMARCK, 1801 (CLASS PELECYPODA) : COMMENT ON PROPOSAL SUBMITTED BY M. GILBERT RANSON, TOGETHER WITH A SUPPLEMENTARY REQUEST FOR THE USE OF THE PLENARY POWERS TO SUPPRESS THE TRIVIAL NAME "GRYPHUS" LINNAEUS, 1758 (AS PUBLISHED IN THE BINOMINAL COMBINATION "ANOMIA GRYPHUS")

By L. R. COX, Sc.D., F.R.S.

(*Department of Geology, British Museum* (*Natural History*), *London*)

(Commission's reference Z.N.(S.)365)

1. The present paper is submitted to the International Commission on Zoological Nomenclature in response to the recently published request by the Secretary to the Commission (Hemming, 1951, *Bull. zool. Nomencl.* **2** : 239-240) for the views of interested specialists on the proposal relating to the determination of the type species of the genus *Gryphaea* Lamarck submitted to the Commission by M. Gilbert Ranson (1950, *Bull. zool. Nomencl.* **3** : 168-170).

2. In that application (as in other previously published papers) M. Ranson concluded that the type species of the genus *Gryphaea* Lamarck is the living Portuguese Oyster, *Gryphaea angulata* Lamark, 1819 (*Hist. nat. Anim. sans Vertèbr.* **6** (1) : 198). Arguments leading to a different conclusion, namely that the type species of this genus is *Gryphaea arcuata* Lamarck, 1801 (*Syst. Anim. sans Vertèbr.* : 398), have, however, been advanced by various workers. These arguments are examined in the following paragraphs.

3. In 1898 (*Tertiary Fauna Florida* : 672) Dall (W. H.) showed : (*a*) that the name *Gryphaea* was first published by Lamarck in his *Systême des Animaux sans Vertèbres* ; (*b*) that, although the name *Gryphaea angulata* was the first name there listed under *Gryphaea*, it was a *nomen nudum* and therefore that the species in question was not available for selection as type species ; (*c*) that several of the names there cited under *Gryphaea* were founded with indications adequate to establish the identity of the species concerned, which therefore were available for subsequent selection as type species. The most important of those species is *Gryphaea arcuata*. Dall's opinion that it was virtually selected as type species by Bosc in 1802 cannot, however, be accepted. Hertlein (1933, *Trans. San Diego Soc. nat. Hist.* **7** : 278) referred to an alleged type selection of *G. arcuata* by Chenu in 1858. The earliest valid selection now known is however by Anton in 1839, who also selected *G. arcuata*. This fact seems first to have been recorded in print by H. B. Stenzel (1947, *J. Paleont.* **21** : 174). It is most improbable that an earlier selection of one of the species available form the *Systême* will now be found.

4. Monsieur Ranson attempts to counter these arguments by maintaining that the *Systême* is a work which should be disregarded in discussions on nomenclature. His reasons (if I understand him correctly) are : (*a*) that the

International Commission rendered an *Opinion* (*Opinion* 78) the meaning of which was that citations of single species in this work under previously established genera cannot be accepted as type selections ; (*b*) that it was a provisional and premature work, as shown by the fact that Lamarck many years later (1819, *Hist. nat. Anim. sans Vertèbr.* **6** (1) : 198-200) changed the names of some species included in it and certain references given under other species. He therefore considers that the first publication of *Gryphaea* which can be accepted was by Lamarck (1819, *op. cit.*) and that a selection of *G. angulata* was validly established as from that work as the type species by Children (1823).

5. Even though it means repeating much that has been said by previous writers, I will deal in turn with these other and points made by Monsieur Ranson.

(a) Status of Lamarck's "Systême"

6. This work unquestionably fulfils the necessary conditions to constitute a valid publication under the International Rules. The fact that it does not contain type selections is quite irrelevant to this question. Equally fallacious is the argument that the *Systême* should be rejected because it was a premature work. Most systematists change their minds on some questions of synonymy and classification during the course of eighteen years, but their earlier works do not thereby lose their status as publications. If, nevertheless, it were to be held that the *Systême* should be suppressed by the International Commission in order that *G. angulata* should become available for selection as type species of *Gryphaea*, it must be remembered that lengthy researches would have to be made on possible repercussions on the nomenclature of other genera included in that work. Nor should it be forgotten that between 1801 and 1819 the generic name *Gryphaea* was published by at least four other workers (Bosc, 1802 ; Roissy, 1805 ; J. Sowerby, 1815 ; Cuvier, 1817), from any of whose works *G. arcuata* (or its synonym *G. incurva* J. Sowerby) would be available for selection as type species of the genus to the exclusion of the then still underscribed *G. angulata*.

(b) Is the generic name "Gryphaea" validly established in the "Systême"?

7. The answer to this question is that the name *Gryphaea* unquestionably was so established. A generic diagnosis was given and certain clearly recognizable nominal species were included in the genus.

(c) Which of the species included under "Gryphaea" by Lamarck in the "Systême" are clearly recognizable and hence available for subsequent selection as type species?

8. The specific names included under *Gryphaea* in this work are listed below. Three are *nomina nuda* ; the identity of the remainder rests on figures in older works. Since no diagnoses are given, no specimens preserved in the Lamarckian

Collection or in any collections known to have been studied by Lamarck can be accepted as the type specimens of these species.

(*i*) *Gryphaea angulata.* No references to figures are given. The name is a *nomen nudum.*

(*ii*) *Gryphaea suborbiculata.* The references are to " Knorr. Petrif. vol. 2^e, part. 1, pl. 62. Encyclop. pl. 189, f. 3, 4 ". Lamarck's references to Knorr are not bibliographically correct, as he renumbered Knorr's plates owing to the peculiarity of Knorr's original system of numbering. The plate referred to is that numbered " D.III c ", and can be identified by counting the plates from the beginning. *G. suborbiculata*, identified both by the figure in this plate and those of the *Encyclopédie méthodique* cited by Lamarck, is a well-known Upper Cretaceous species. Lamarck later re-named it *Gryphaea columba* and it is now referred to the genus *Exogyra* Say, 1820.

(*iii*) *Gryphaea cymbula.* The reference given is " Knorr. Petrif. vol. 2^e, part. 1, pl. 20, f. 7." The plate number should read " B. I. d ", in which fig. 7 shows the profile view of a large Jurassic *Gryphaea.* This appears to be a well-known Middle Liassic species, although Rollier (1915, *Fossiles nouveaux ou peu connus* : 571) considers that it cannot be identified with certainty.

(*iv*) *Gryphaea arcuata.* The references are " Encyclop. pl. 189, f. 1, 2. Knorr. Petrif. vol. 2^e, p. 1, pl. 60, f. 1, 2. Bourg. Petrif. no. 92." This species needs careful consideration, and it seems desirable to fix its identity by selecting as lectotype the original of the most appropriate of the figures cited. The *Encyclopédie méthodique* figures were later omitted by Lamarck (1819, *Hist. nat. Anim. sans Vertèbr.* **6** (1) : 198) from those cited under *G. arcuata* and included under *G. cymbium.* The reference to Knorr has the objection that the plate cited should read " D. III a " (not 60). Knorr gave no localities for the specimens represented in figs. 1, 2 of this plate, but there is little doubt that fig. 1, at least, is of a specimen from the Lower Lias closely resembling that described by J. Sowerby in 1815 as *Gryphaea incurva.* Fig. 92 (on pl. xv) of Bourguet's *Traité de Pétrifications* (the third work cited by Lamarck) is of a very similar shell which undoubtedly came from the Lower Lias, although again no locality is given. Bourguet's figured specimen is hereby selected as the lectotype of *G. arcuata.*

So great, however, are the difficulties of specific identification in Liassic Gryphaeas, that it might be contended that a single figure, however good, of a specimen of unknown provenance is insufficient for subsequent recognition of a species. Some workers would, in fact, maintain that a species of this group could be identified only if its precise locality and geological horizon were known, or, alternatively, a large series of specimens from the same bed available for statistical examination. Schäfle (1929, *Geol. paläont. Abh.* (n.s.) **17**(2) : 26. pl.

2 figs. 7-17 ; pl. 3, figs. 1-4, 9), the latest reviser of Liassic oysters as a whole, however, regards *G. arcuata* as a species of moderately long geological range and broad synonymy, and Bourguet's figured specimen was undoubtedly a fully representative specimen of the species as conceived of by this author. Schäfle's pl. 2, fig. 7, compares closely with Bourguet's figure, as does his pl. 2, fig. 16 with Knorr's pl. D. III a, fig. 1. Bouguet's figure of the specimen which is now selected as lectotype, together with Knorr's fig. 1, are, therefore, sufficient to establish the identity of *G. arcuata* as interpreted by Schäfle, whose work, although not statistical, is as thorough as that of any other modern author.

(*v*) *Gryphaea africana*. Lamarck's reference is " Encyclop. pl. 189, f. 5, 6 ". These figures represent a well-characterized species which is abundant in the Cenomanian of Northern Africa and the Middle East and is now referred to *Exogyra* Say.

(*vi*) *Gryphaea carinata*. The reference given by Lamarck is " Bourg. Petrif. pl. 15, f. 89, 90." There is some doubt as to which of several Cretaceous species of *Exogyra* is represented by these figures. The name *G. carinata* has not been generally adopted.

(*vii*) *Gryphaea latissima*. Lamarck's reference is " Bourg. Petrif. pl. 14, no. 84, 85." This is the well-known Lower Cretaceous *Exogyra* to which the later names *couloni* (Defrance) and *sinuata* (J. Sowerby) have more frequently been applied.

(*viii*) *Gryphaea depressa*. A *nomen nudum*.

(*ix*) *Gryphaea angustata*. A *nomen nudum*.

9. From the above, it may be seen that, besides *G. arcuata*, three species of unquestionable identity (*G. suborbiculata*, *G. africana*, *G. latissima*), all now included in *Exogyra*, were available for selection as the type species of *Gryphaea* Lamarck, 1801, together with two of doubtful identity (*G. cymbula*, *G. carinata*).

(*d*) Is Anton's selection of " G. arcuata " as type species of " Gryphaea " Lamarck without technical objections?

10. On. pl. vi. of the preface to his *Verzeichniss* (1839) Anton refers to " Gattungen (deren Typusart mit Versalbuchstaben gedruckt ist) " and on p. 21 *arcuata* is the only species printed in small capitals under " Untergattung *Gryphaea* Lam." Throughout the work the type species of genera and subgenera are consistently indicated in this manner, and there seems to be no technical objection to this method of type selection. It is reasonable to maintain that a type selection for *Gryphaea* Lamarck without mention of the date of publication of the genus must be accepted as referring to its earliest place of publication.

11. So far as I know, none of the other species available from the *Système* has ever been cited as the type species of *Gryphaea*.

(*e*) Is there evidence that it was Lamarck's intention to found the genus "Gryphaea" primarily upon the living species "G. angulata"?

12. Monsieur Ranson argues that such was Lamarck's intention, as *G. angulata* was the first species listed by him under *Gryphaea* both in 1801 and in 1819. The generic diagnosis, however, states " crochet . . . courbé en spirale involute ", whereas the umbonal region in *G. angulata* is not involute, but coiled in a posterior direction, as in *Exogyra*. It further states " animal inconnu ", again suggesting that it was not the living European species that Lamarck had primarily in mind when writing the diagnosis. The actual generic name, moreover, was derived from the word " gryphites ", which had long been applied to the fossil forms in non-binominal literature.

(*f*) Does it seem desirable, to preserve current usage, for the International Commission to designate "G. angulata" Lamarck, 1819 as type species of "Gryphaea" under its plenary powers?

13. The generic name *Gryphaea* has been employed for the group of incoiled fossil oysters from Jurassic deposits in countless text-books and general works for the past 125 years. Since 1885, when P. Fischer (*Manuel de Conchyliologie*: 927) cited *G. angulata* as an example of *Gryphaea* and proposed the new name *Liogryphaea* for *G. arcuata* (although he referred this species to *Gryphaea* in the explanation of his text-figure), the name *Liogryphaea* has become fairly current in French palaeontological literature, although it has gained little ground in other countries. In my card index of Jurassic lamellibranchia extracted from the palaeontological literature of the whole world I have 1002 references under *Gryphaea* and 51 under *Liogryphaea*, whether as distinct genera or as subgenera of *Ostrea*. This shows that the name *Gryphaea* is about 20 times more familiar to palaeontologists as a whole than *Liogryphaea*. In fact, if *G. angulata* were the valid type species of *Gryphaea*, there would be a strong case for the use of the plenary powers with a view to legalizing the use of this generic name for the fossil forms. Similar figures for the name of the Portuguese Oyster are not available. Except in France, however, this is usually known as *Ostrea angulata* Lamarck, the necessity for its generic separation from *Ostrea* not being generally admitted. It was catalogued as *Ostrea* (*Crassostrea*) *angulata* by the late Mr. R. Winckworth in his " List of the Marine Mollusca of the British Isles " (1932, *J. Conchol.* **19**: 240).

Conclusions

14. In the light of the foregoing considerations, it is evident (1) that, under the *Règles*, Lamarck's *Systême* is an available work for the purposes of Article 25 (the Law of Priority) (the observations in regard to that work contained in the Commission's *Opinion* 78 relating to an entirely different question, namely whether the method of citing specific names there adopted constitutes the selection, under Article 30, of the species so cited as the type species of the genera in which those species are severally placed), (2) that the specific name *Gryphaea angulata*, as cited in the *Systême* is a *nomen nudum* and in consequence that the species validly so named by Lamarck eighteen years later (in 1819) is ineligible for selection as the type species of *Gryphaea*

Lamarck, 1801, (3) that of the described species included in *Gryphaea* in 1801 the first to be selected by any worker (Anton, 1839) as the type species of that genus was the fossil species *Gryphaea arcuata* Lamarck, 1801, (4) that in palaeontological literature the name *Gryphaea* is firmly established as the name of the genus containing the Liassic species *Gryphaea arcuata*, that genus having been called by that name about twenty times as often as by the name *Liogryphaea* Fischer, 1885, (*Man. Conch.* : 927), the name which that genus would bear, if *G. angulata* Lamarck, 1819, and not *G. arcuata* Lamarck, 1801, were the type species of *Gryphaea*, while it is only by French workers that the name *Gryphaea* has been habitually used for *G. angulata*, workers in other countries generally retaining that species in the genus *Ostrea* Linnaeus, 1758.

15. While I differ from Monsieur Ranson on the question of the species which, under the *Règles*, is the type species of the genus *Gryphaea*, I welcome his action in bringing this matter before the International Commission on Zoological Nomenclature, for it is clearly desirable that a final decision on this matter should be obtained as soon as possible and an end thus put to the fruitless discussions which have been in progress for over sixty years. Before I formulate the action which I recommend that the International Commission should now take, in order finally to determine the type species of the genus *Gryphaea*, I must refer briefly to another question, which, though entirely unconnected with the question of the type species of this genus, has nevertheless a bearing on the action which it is desirable that the Commission should now take. I refer to the question whether the trivial name *arcuata* Lamarck, 1801 (as published in the binominal combination *Gryphaea arcuata*) is the oldest available name for the species which is the type species of the genus *Gryphaea*. The name *Gryphaea arcuata* Lamarck, 1801, is an available name both in the sense that it is not a junior homonym of any previously published specific name and in the sense that it is not a junior objective synonym of an earlier name applied to the same species. There is, however, an earlier name, which has hitherto been treated by almost all authors as a *nomen dubium*, which may have been based upon specimens of the same species as that upon which the nominal species *Gryphaea arcuata* Lamarck, 1801 (as defined by the lectotype selection made in paragraph 8(iv) above) was based. This nominal species is *Anomia gryphus* Linnaeus, 1758 (*Syst. Nat.* (ed. 10) **1** : 701), which was based upon a short diagnosis (which cannot be interpreted with certainty) and upon references to five older works, none of which, it may be noted, was among those similarly cited by Lamarck when publishing the name *Gryphaea arcuata*, though some illustrate that species, as here interpreted. Hanley (1855, *Ipsa Linn. Conch.* : 124), it is true, recorded that the Linnean Collection includes a worn *Gryphaea* bearing the number 192 (under which Linnaeus listed *Anomia gryphus* in 1758) and that this appears to belong, not to *G. arcuata*, but to the related species *G. obliquata* Sowerby (J.), 1815 (*Min. Conch.* **2** : 24). Nevertheless, this specimen could not be accepted as more than a syntype of the Linnean species. Thus, the trivial name *gryphus* Linnaeus, 1758 (as published in the binominal combination *Anomia gryphus*) constitutes a potential threat to the stability of the name of one or other of the two species now known as *Gryphaea arcuata* Lamarck and *Gryphaea obliquata* Sowerby (J.). The possibility that a well-established name (such as the trivial name *arcuata* Lamarck, 1801, or the trivial name *obliquata* Sowerby (J.), 1815) might be threatened by some older *nomen dubium* (such as the trivial name *gryphus* Linnaeus, 1758) has been anticipated by the International Commission and by the International Congress of Zoology, and the latter body, on the recommendation of the Commission, has inserted in Article 31 a provision that in such a case the question at issue is to be referred to the Commission for decision (see 1950, *Bull. zool. Nomencl.* **4** : 76). It is in pursuance of that provision that this case is now reported to the International Commission. It cannot possibly be established that the trivial name *gryphus* Linnaeus, 1758, certainly applies to the same species as the name *arcuata* Lamarck, 1801, and the continued existence of this name as an available name serves no useful purpose whatever, constituting only a threat to the stability of the names *arcuata* Lamarck and *obliquata* Sowerby (J.). The International Commission is accordingly asked to remove that threat by using its plenary powers to suppress the trivial name *gryphus* Linnaeus.

Recommendations

16. I accordingly ask the International Commission on Zoological Nomenclature to reject the arguments regarding the type species of the genus *Gryphaea* advanced by Monsieur Ranson, and :—

(1) to rule that, under Article 25 of the *Règles*, the generic name *Gryphaea* possesses availability for the purposes of the Law of Priority as from the date of its publication in 1801 in the *Systême* of Lamarck and that the type species of that genus is *Gryphaea arcuata* Lamarck, 1801, that species having been so selected by Anton (1839) and having been the first of the originally included species to have been so selected by any author ;

(2) to use its plenary powers to suppress the trivial name *gryphus* Linnaeus, 1758 (as published in the binominal combination *Anomia gryphus*) for the purposes of the Law of Priority but not for those of the Law of Homonymy ;

(3) to place the generic name *Gryphaea* Lamarck, 1801 (gender of generic name : feminine) (type species, by selection by Anton (1839) : *Gryphaea arcuata* Lamarck, 1801) on the *Official List of Generic Names in Zoology* ;

(4) to place the under-mentioned trivial names on the *Official List of Specific Trivial Names in Zoology* :—

  (*a*) *arcuata* Lamarck, 1801 (as published in the binominal combination *Gryphaea arcuata*), the species so named to be defined by the lectotype selection made in the present application (trivial name of type species of *Gryphaea* Lamarck, 1801) ;

  (*b*) *obliquata* Sowerby (J.), 1815 (as published in the binominal combination *Gryphaea obliquata*) ;

  (*c*) *angulata* Lamarck, 1819 (as published in the binominal combination *Gryphaea angulata*) ;

(5) to place the under-mentioned generic names on the *Official Index of Rejected and Invalid Generic Names in Zoology* :—

(*a*) *Liogryphaea* Fischer, 1885 (a junior objective synonym of *Gryphaea* Lamarck, 1801, the two nominal genera having the same species as type species) ;

(*b*) *Liogryphea* Douvillé, 1904 (*Miss. sci. Pers.* **3** (Études géol.)(4) (Pal.) : 273) (an invalid variation of *Liogryphaea* Fischer, 1885) ;

(6) to place the trivial name *gryphus* Linnaeus, 1758 (as published in the binominal combination *Anomia gryphus*), as proposed, under (2) above, to be suppressed under the plenary powers, on the *Official Index of Rejected and Invalid Specific Trivial Names in Zoology*.

OBJECTION TO THE PROPOSAL THAT " GRYPHAEA ANGULATA " LAMARCK, 1819 (CLASS PELECYPODA) SHOULD BE DESIGNATED AS THE TYPE SPECIES OF THE GENUS " GRYPHAEA " LAMARCK, 1819, BY THE SUPPRESSION OF THE NAME " GRYPHAEA " LAMARCK, 1801

By W. J. ARKELL, M.A., D.Sc., F.R.S.
(*Sedgwick Museum, Cambridge University, Cambridge*)

(Commission's reference Z.N.(S.)365)

(Extract from a letter dated 3rd June, 1951)

I disapprove of this application and consider that the Rules should take their course. By so doing, they legalise the current and past practice in what I believe to be the overwhelming majority of literature in which the name *Gryphaea* has been mentioned. I can recall no exception in the whole of palaeontological literature to the assumption that the type species of *Gryphaea* is a Liassic species. Moreover, the work on programme evolution that has made *Gryphaea* a household word has so widely disseminated the name in biological literature generally that I cannot understand even a neontologist wanting to change the type species.

OBJECTION TO THE PROPOSED ACCEPTANCE OF "GRYPHAEA ANGULATA" LAMARCK, 1819, AS THE TYPE SPECIES OF THE GENUS "GRYPHAEA" LAMARCK, 1819 (CLASS PELECYPODA): COMMENT ON PROPOSAL SUBMITTED BY M. GILBERT RANSON

By MYRA KEEN (*Curator of Paleontology*) and SIEMON W. MULLER
(*Professor of Geology, Stanford University, Stanford, California, U.S.A.*)

(Commission's reference Z.N.(S.)365)

(Letter dated 29th May, 1951)

We strongly disapprove the proposal that *Gryphaea* Lamarck, 1801, should be suppressed under the plenary powers of the International Commission. We see no compelling reason why this should be done, and, in our opinion, such action would result in much confusion.

Surveying the literature, we observe that even those authors of the past who have accepted *Gryphaea angulata* Lamarck, 1819, as the type species of the genus *Gryphaea* have included *G. arcuata* Lamarck, 1801, in their concept of the genus ; and hence, the name is much more widely established in paleontological literature than it is in the literature on Recent forms. The term *Crassostrea* Sacco, 1898 (*in* Bellardi & Sacco, *Moll. Terr. terz. Piemonte e Liguria* : 23 : 15) is available for use in the Recent group—in fact is used by many modern authors. Therefore, we feel that nothing is to be gained and much is to be lost in adopting the proposal, for it means shifting the concept of the genus. If by the proposed ruling, a name were to be protected, the case would be different. This change would merely render obsolete a large body of literature in order to provide a given name for a given type species. Much simpler would be the erection of a new generic group if Monsieur Ranson feels that *Crassostrea* is inappropriate for the restricted group represented by *Gryphaea angulata*.

The problem has been discussed by the paleontologists Dall (1898, *Trans Wagner Free Inst. Sci. Philad.* **3** (4) : 672-675), Hertlein (1933, *Trans. San Diego Soc. nat. Hist.* **7** (22) : 277-278) and Stenzel (1947, "Nomenclatural Synopsis of supraspecific groups of the family Ostreidae", *J. Paleont.* **21** (2) : 165-185, especially page 175), all of whom have come to the conclusion that the type species of *Gryphaea* should be *G. arcuata* Lamarck, 1801. The reasons which they and also the late Mr. R. Winckworth have advanced seem to us cogent.

OBJECTION TO THE PROPOSED ACCEPTANCE OF "GRYPHAEA ANGULATA" LAMARCK, 1819, AS THE TYPE SPECIES OF THE GENUS "GRYPHAEA" LAMARCK, 1801 (CLASS PELECYPODA): COMMENT ON PROPOSAL SUBMITTED BY M. GILBERT RANSON

By D. T. DONOVAN, B.Sc., Ph.D.
(*University of Bristol, Department of Geology, Bristol*)

(Commission's reference Z.N.(S.)365)

(Extract from a letter dated 8th June, 1951)

Gryphaea arcuata Lamarck, 1801, the type species of *Gryphaea* Lamarck, 1801, and other species of the same genus, are common and familiar fossils in rocks of Lower Lias age, and have been known almost exclusively by this generic name since the time of Lamarck's work. I realise that the living species, *Gryphaea angulata* Lamarck, 1819, the Portuguese Oyster, is very well known to students of recent molluscs, but, even if it is as familiar to them as the fossil species *Gryphaea arcuata* Lamarck is to palaeontologists, the use of the plenary powers to suspend the *Règles* where they operate to give a perfectly umambiguous result would seem highly undesirable, and only to be recommended if the combination *Gryphaea arcuata* had for long fallen out of use, which is most emphatically not the case.

SUPPORT FOR DR. L. R. COX'S PROPOSAL FOR THE USE OF THE PLENARY POWERS TO VALIDATE THE NAME "CARDINIA" (CLASS LAMELLIBRANCHIATA) AS FROM AGASSIZ [1841]

By W. J. ARKELL, M.A., D.Sc., F.R.S.

(*Sedgwick Museum, Cambridge University, Cambridge*)

(Commission's reference Z.N.(S.)208)

(Extract from a letter dated 3rd June, 1951)

With reference to Dr. L. R. Cox's application for the use of the plenary powers to validate the generic name *Cardinia* as from Agassiz [1841] (1951, *Bull. zool. Nomencl.* **2** : 59-64), I agree with this application and wish to support it.

SUPPORT FOR DR. HENNING LEMCHE'S PROPOSALS RELATING TO THE GENERIC NAME "SCAPHANDER" MONTFORT, 1810 (CLASS GASTROPODA)

By JOSHUA L. BAILY, Jr.

(*San Diego, California, U.S.A.*)

(Commission's reference Z.N.(S.)378)

(Extract from a letter dated 22nd June, 1951)

The name *Scaphander* should, in my opinion, be placed on the *Official List* as requested, for the very convincing reasons given by Dr. Henning Lemche in his application to the International Commission on Zoological Nomenclature[3].

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[3] See 1951, *Bull. zool. Nomencl.* **2** : 35-36.

SUPPORT FOR THE PROPOSALS SUBMITTED BY DR. W. K. ARKELL IN REGARD TO THE GENERIC NAMES "AMMONITES," "ARNIOCERAS" AND "LIPAROCERAS" AND THE TRIVIAL NAME "ANGULATUS" SCHLOTHEIM, 1820 (AS PUBLISHED IN THE BINOMINAL COMBINATION "AMMONITES ANGULATUS") (CLASS CEPHALOPODA, ORDER AMMONOIDEA)

By D. T. DONOVAN, B.Sc., Ph.D.

(*Bristol University, Department of Geology, Bristol*)

(Commission's references Z.N.(S.)425, 509, 507, 422)

(Extract from a letter dated 28th May, 1951)

I write to comment on certain of the applications submitted to the International Commission on Zoological Nomenclature by Dr. W. J. Arkell and published in the *Bulletin of Zoological Nomenclature*, vol. 2, Parts 6/8.

I have been specialising in Liassic Ammonites for several years and have just completed an account of certain of them, while I am preparing revisions of two old monographs, namely Thomas Wright's "Monograph on the Lias Ammonites of the British Islands" and Pierre Reynes' "Monographie des Ammonites." Consequently, I am directly concerned with the effects of some of Dr. Arkell's proposals.

(1) *Page* 200. *Generic name* Ammonites *Bruguière* (Z.N.(S.)425) :—

I agree with Dr. Arkell that it is undesirable for this name to remain, as at present, based on an eighteenth-century figure of uncertain identity, owing to the possibility of different interpretations, as pointed out in paragraph 11 of the proposal. The alternative procedure, namely the definition of the type species by reference to a later figure is liable to displace other current names ; as regards the particular proposal mentioned by Dr. Arkell (paragraph 13(A)) that d'Orbigny's 1843 plate 43 should be selected as "neotype" of *Ammonites bisulcatus*, Bruguière, I have personally examined d'Orbigny's collection at Paris and have satisfied myself that his plate 43 does not represent any now existing specimen ; it may be a figure of a lost specimen but is more likely to be an idealised drawing. It is therefore undesirable that the interpretation of any genus should depend on this figure. In my own work I have not used the genus, since it cannot be defined to the agreement of all, and I feel that Dr. Arkell's proposal for suppression would be an acceptable solution.

(2) *Page* 204. *The trivial name* angulatus *Schlotheim* (*as published in the binominal combination* Ammonites angulatus) (Z.N.(S.)422) :—

I agree with the proposal to suppress the trivial name *angulatus* Sowerby, 1815 (as published in the binominal combination *Ammonites angulatus*) in favour of *angulatus* Schlotheim, 1820 (as published in the same binominal combination), as it will bring the legal position into line with universal usage. Any possible doubt as to the identity of Schlotheim's species has been removed since Dr. Arkell's paragraphs 10-12 were written, by the publication of type material by Lange (1951, *Palaeonotographica* **100** (Abt 1) : pl. 1, fig. 2 (lectotype), also fig. 6 and pl. 2, fig. 13).

(3) *Page* 217. *Type species of* Arnioceras *Hyatt*, 1867 (Z.N.(S.)509) :—

(4) *Page* 220. *Type species of* Liparoceras *Hyatt*, 1867 (Z.N.(S.)507) :—

I agree with Dr. Arkell's proposals for the type species of these genera.

SUPPORT FOR THE PROPOSAL SUBMITTED BY DR. W. J. ARKELL THAT THE GENERIC NAME " AMMONITES " BRUGUIÈRE, 1789 (CLASS CEPHALOPODA, ORDER AMMONOIDEA) SHOULD BE SUPPRESSED UNDER THE PLENARY POWERS

By C. W. WRIGHT (*London*)

(Commission's reference Z.N.(S.)425)

(Extract from a letter dated 17th July, 1951)

I should like to support Dr. W. J. Arkell's application (1951, *Bull. zools Nomencl.* **2** : 200-203) for the suppression of the generic name *Ammonite.* Bruguière, 1789. Although it might be argued that this name is comparable in its double connotation, as the name of a genus and, almost in the vernacular, as the name of an Order or Sub-Order, to such names as *Nautilus*, the scale of the vernacular use of *Ammonites* is so vast that its use as the name of a nominal genus would be bound to be confusing and misleading, quite apart from the arguments adduced by Dr. Arkell.

SUPPORT FOR THE PROPOSAL SUBMITTED BY DR. W. J. ARKELL FOR THE SUPPRESSION UNDER THE PLENARY POWERS OF FIVE EARLY NAMES FOR GENERA OF AMMONITES (CLASS CEPHALOPODA, ORDER AMMONOIDEA)

By C. W. WRIGHT (*London*)

(Commission's reference Z.N.(S.)423)

(Extract from a letter dated 17th July, 1951)

As a worker in Cretaceous ammonites, I am writing to support strongly Dr. W. J. Arkell's application (1951, *Bull. zool. Nomencl.* **2** : 198-199) for the suppression of the five early names of ammonite genera, *Planulites* and *Orbulites* Lamarck, 1801, *Pelagus* and *Ellipsolithes* Montfort, 1808, and *Globites* de Haan, 1825. As he says, these names constitute a menace to ammonite nomenclature and that menace should be removed.

ON THE QUESTION WHETHER THE GENERIC NAME "ARIETICERAS" QUENSTEDT, 1883 (CLASS CEPHALOPODA, ORDER AMMONOIDEA) IS AN AVAILABLE NAME: COMMENT ON THE VIEW EXPRESSED BY DR. W. J. ARKELL

By H. ENGEL
(*Zoologisch Museum, Amsterdam, The Netherlands*)

(Commission's reference Z.N.(S.)486)

(Extract from a letter dated 7th May, 1951)

The question in regard to the availability of Quenstedt's generic name *Arieticeras* raised by Dr. W. J. Arkell (1951, *Bull. zool. Nomencl.* **2** : 208-210) and commented on by yourself (*ibid.* **2** : 211-213) as of general interest is a psychological one. My conclusion is that Dr. Arkell is not right in concluding that Quenstedt did not intend it as a new name. If he had thought it unnecessary, he could have stated that perhaps a new name might be required to distinguish the species in question but have given no name. The fact, however, that he did give a new name implies that he supposed that someone might think it necessary to give the species a new generic name and, providing for that case, he supplied a name. Though he decided for practical purposes not to use that name, he clearly gave it, to meet a future situation in which it might be considered necessary. Why else did he actually compose that name ? If one could ask Quenstedt, he would, I feel sure, be dissatisfied if his name were not to be regarded as available.

SUPPORT FOR THE PROPOSALS RELATING TO THE GENERIC NAME "PLEUROCERA" RAFINESQUE, 1818 (CLASS GASTROPODA) SET FORTH IN THE REPORT SUBMITTED BY THE SECRETARY TO THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

By JOSHUA L. BAILY, Jr.

(*San Diego, California, U.S.A.*)

(Commission's reference Z.N.(S.)83)

(Extract from a letter dated 22nd June, 1951)

I am in complete agreement with the recommendations in regard to the generic name *Pleurocera* Rafinesque, 1818 (Class Gastropoda) which you suggest in your Report to the International Commission on Zoological Nomenclature (1951, *Bull. zool. Nomencl.* **2** : 6-17), and for the same reasons which you have so ably formulated. I find, however, that I cannot agree with Dr. Rehder's statement on p. 12 par. 3 (4). My feeling is that in formulating rules it is quite impossible to foresee all the possible contingencies that the rules will have to meet, and that if suspension is kept at a minimum, it will be necessary to alter the rules from time to time, increasing their complexity and also the difficulty of understanding them and applying them. The best way to achieve stability is to get the important names on to the *Official List*, and *Pleurocera* is a very important name, even if the genus it designates is a small one. If placing it on the *Official List* for use in its accepted sense involves suspension of rules, then by all means let the rules be suspended.

SUPPORT FOR DR. W. E. CHINA'S PROPOSAL RELATING TO THE TYPE SPECIES OF THE GENUS "CAPSUS" FABRICIUS, 1803 (CLASS INSECTA, ORDER HEMIPTERA)

By S. v. KÉLER

(*Chief of the Hemiptera Department, Zoologisches Museum der Universität, Berlin*)

(Commission's reference Z.N.(S.)211)

(Letter dated 18th May, 1951)

Nach Kenntnisnahme und Ueberprüfung der Belange zu dem im 1951, *Bull. zool. Nomencl.* **2**(4)S. 103-104, veröffentlichten Antrag von W. E. China über die Bestimmung von *Cimex ater* Linnaeus, 1758, als Typus der Gattung *Capsus* Fabricius, 1803, erkläre ich, dass ich den Antrag in allen Punkten unterstütze.

SUPPORT FOR THE PROPOSALS SUBMITTED BY PROFESSOR HAROLD E. VOKES RELATING TO THE ENTRY OF THE NAME "MYTILUS" LINNAEUS, 1758 (CLASS PELECYPODA) ON THE "OFFICIAL LIST OF GENERIC NAMES IN ZOOLOGY"

By JOSHUA L. BAILY, Jr.
(San Diego, California, U.S.A.)

(Commission's reference Z.N.(S.)193)

(Extract from a letter dated 22nd June, 1951)

Since the names *Mytilus* Linnaeus, 1758, and *Anodonta* Lamarck, 1801, with their respective type species, are already on the *Official List*, I fail to see that any further action should be needed to stabilize them but, if such action is necessary, I should certainly support it. I would, however, like in this connection to call attention to the following point not mentioned in the application (1951, *Bull. zool. Nomencl.* **2** : 31-32). Schumacher, in his *Essai nouv. Syst. Vers. test.* of 1817, also figured the hinge of *Arca* Linnaeus as a type selection and the International Commission on Zoological Nomenclature, in fixing the type of *Arca*, discarded Schumacher's selection. I have not seen Schumacher's *Essai*, but Dr. H. A. Rehder, who has consulted it for me, tells me that the types of *Arca* and of *Mytilus* are selected in exactly the same way, from which I conclude that the discarding of the type selection of *Arca* automatically implies the discarding of the type species of *Mytilus* as well, and that therefore the earliest available type selection for *Mytilus* is that of Anton, and that *Mytilus edulis* is the type whether the rules are suspended or not.

The names *Mytilus* and *Anodonta* were placed on the *Official List of Generic Names in Zoology* before the *Official List of Specific Trivial Names* was established. I believe, therefore, that the names *edulis* Linnaeus, 1758, and *cygneus* Linnaeus, 1758, as originally published as *Mytilus edulis* and *Mytilus cygneus*, are not on the latter *List*. I would accordingly suggest that these specific trivial names be now added to the *Official List*.

SUPPORT FOR THE RETENTION OF THE GENERIC NAMES "CRANGON" WEBER, 1795, AND "CRAGO" LAMARCK, 1801 (CLASS CRUSTACEA, ORDER DECAPODA): OBJECTION TO PROPOSAL SUBMITTED BY DR. L. B. HOLTHUIS

By WALDO L. SCHMITT

(*Smithsonian Institution, U.S. National Museum, Washington, D.C., U.S.A.*)

(Commission's reference Z.N.(S.)231)

(Letter dated 30th November, 1950)

I am still hoping that there may be an opportunity for the weight of opinion to insure the retention of the use of *Crangon* Weber for *Alpheus* and *Crago* Lamarck for the genus formerly known as *Crangon*. I was much impressed by a survey made by Dr. Chace as long ago as 20th October.[4] It bears out my opinion of the feelings of the majority of the carcinologists and especially of American workers. Taxonomists have been accused of never being happy unless they could change names, but in this case a majority opinion should have some weight.

SUPPORT FOR THE PROPOSAL SUBMITTED BY DR. L. B. HOLTHUIS REGARDING THE NAMES "CRANGON" FABRICIUS, 1798, AND "ALPHEUS" FABRICIUS, 1798 (CLASS CRUSTACEA, ORDER DECAPODA)

By MARIE V. LEBOUR, D.Sc.

(*The Laboratory, Citadel Hill, Plymouth, England*)

(Commission's reference Z.N.(S.)231)

(Letter dated 4th July, 1951)

I have just received a paper from Dr. L. B. Holthuis of Leiden (1951, *Bull. zool. Nomencl.* **2** : 69-72) on the proposed use of the plenary powers to validate the generic name *Crangon* Fabricius, 1798, for the Common Shrimp and the generic name *Alpheus* Fabricius, 1798, for the Snapping Shrimps (Class Crustacea, Order Decapoda), and I wish to state that I heartily agree with his views.

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[4] For Dr. Chace's survey here referred to, see pp. 76-78.

OBJECTION TO DR. L. B. HOLTHUIS' PROPOSALS RELATING TO THE NAMES "CRANGON" FABRICIUS, 1798, AND "ALPHEUS" FABRICIUS, 1798 (CLASS CRUSTACEA, ORDER DECAPODA)

By FRANK A. MCNEILL
(*Australian Museum, Sydney, New South Wales*)

(Commission's reference Z.N.(S.)231)

(Extract from a letter dated 2nd January, 1951)

My American colleague, Fenner A. Chace, Jr., has written me and given details of Dr. L. B. Holthuis' application to the International Commission on Zoological Nomenclature. He also included in his letter a copy of the case he prepared and submitted to you for the consideration of the Commission.

Dr. Chace's case is presented in a fair and logical way. It is in complete agreement with my views on the matter and in accordance with modern accepted usage. There are, however, one or two points that I would like to contribute to the discussion. First, I have always been an adherent to the golden rule of priority; this is one of the foundation stones of our taxonomic science today. At times a worker must find it a nuisance, but no amount of argument can get around the right of an earlier accepted author's claim to recognition. The law of priority has been clearly set out by the Commission and it would surely lose in standing and confidence if it started now to make exceptions.

This "*Alpheus—Crangon* issue" has a classical parallel in taxonomy. I refer to Alcock's impassioned appeal for the retention of *Gelasimus* (Fiddler Crabs) as against the prior name *Uca*. In any consideration on the question under discussion this appeal of Alcock's should be carefully considered by the Commission; the reference is: 1900, *J. asiat. Soc. Bengal* (Pt. 2) **69**(3) : 350. Every carcinologist today knows that this was a lost cause, for it is a rarity for the old name *Gelasimus* to appear in modern literature.

SUPPORT FOR THE PROPOSAL SUBMITTED BY DR. L. B. HOLTHUIS REGARDING THE NAMES "CRANGON" FABRICIUS, 1798, AND "ALPHEUS" FABRICIUS, 1798 (CLASS CRUSTACEA, ORDER DECAPODA)

By A. B. NEEDLER

(*Fisheries Research Board of Canada, Atlantic Biological Station, St. Andrews, N.B., Canada*)

(Commission's reference Z.N.(S.)231)

(Letter dated 5th July, 1951)

I have received a copy of Dr. L. B. Holthuis' application (Z.N.(S.)231) to validate the generic names *Alpheus* Fabricius, 1798, and *Crangon* Fabricius, 1798, and I should like to support it. In common with most Americans and Canadians, I have been using *Crangon* Weber, 1795, and *Crago* Lamarck, 1801, for these genera, but this practice leads to many muddles and should be abandoned.

À PROPOS DE LA PROPOSITION DU DR. L. B. HOLTHUIS AU SUJET DES NOMS GÉNÉRIQUES "CRANGON" WEBER, 1795 "CRANGON" FABRICIUS, 1798 ET "ALPHEUS" FABRICIUS, 1798

par H. NOUVEL

(*Faculté des Sciences de Toulouse, France*)

(Commission's reference Z.N.(S.)231)

Au cours d'une conversation avec le Dr. L. B. Holthuis et alors que je lui faisais part de ce qu'à mon avis, la stricte application des *Règles Internationales de Nomenclature* pouvait avoir d'irritant et de néfaste dans certains cas particuliers, à l'appui de mon opinion, je citais le famaux exemple "*Crangon-Crago-Alpheus.*" J'ajoutais que l'initiative de Rathbun était le plus bel exemple de ce qu'un spécialiste *ne devait pas faire.* Je lui disais aussi que personnellement, j'avais découvert des cas semblables au cours de mes recherches bibliographiques mais je me faisais un *devoir* de ne pas les dévoiler. C'est seulement après cette déclaration que le Dr. Holthuis m'a fait part de sa proposition relativement à ce cas précis.

Il me paraît intutile de reprendre les arguments fort pertinents de MM. Holthuis et Gurney. Je voudrais seulement insister sur l'argument de *bon sens.*

Pour ce qui concerne la Crevette la plus commune des côtes européennes, qui est aussi celle qui a été le plus souvent nommée dans la littérature et qui de plus, est le type du genre, aussi bien les Carcinologistes que les Zoologistes non spécialities, les Physiologistes, les Biologistes, les Economistes ont employé les noms de *Crangon crangon* ou de *Crangon vulgaris*. C'est aussi celui qu'on trouve dans les traités classiques et les ouvrages de faunistique et de détermination. Dans ces conditions, il se passerait bien des années avant que l'on puisse faire admettre l'usage du nom générique " *Crago*," si l'on songe qu'un demi-siècle d'usage n'a pu faire abandonner " *Crangon vulgaris* " !

Je n'ignore pas que l'argument joue en sens inverse, en Amérique, pour *Crago semtemspinosus*, mais la littérature relative à cette espèce est bien moins considérable, moins étalée dans le temps, moins " classique " que celle de *Crangon crangon*.

Pour ce qui concerne le rejet d' "Alpheus," je me contenterai de dire qu'en Europe et dans la plus grande partie du monde, et en dehors de quelques carcinologistes professionnels, il est fort peu de Zoologistes (s'il en est !) qui songent à un *Alpheidae* lorsque l'on parle de " *Crangon*," même en y associant le nom de Weber !

Je voudrais enfin joindre un argument d'ordre psychologique. En Europe, tout au moins, les usagers qui ne sont pas des taxonomistes professionnels sont, à juste titre, lassés par les continuelles et fréquentes modifications de nomenclature qui leur apparaissent bien souvent comme une activité scientifique stérile, désagréable et même néfaste. Il faut bien reconnaître que la est l'origine du discrédit qui frappe les systématiciens dans l'esprit de beaucoup de Biologistes et de Physiologistes. Je pense, à l'encontre de M. Chace, que l'avis des Biologistes qui ne sont pas des Carcinologistes taxonomistes professionnels et actifs est loin d'être négligeable.

Donc chaque fois que l'application des *Règles* ne s'impose réellement pas, je pense qu'il faut opter pour la solution qui apporte le minimum de perturbations. C'est pourquoi je suis fermement partisan de la solution proposée par le Dr. L. B. Holthuis.

SUPPORT FOR THE PROPOSALS SUBMITTED BY DR. L. B. HOLTHUIS IN REGARD TO THE GENERIC NAMES "CRANGON," "LIGIA," "SCYLLARIDES," "LYSIOSQUILLA" AND "ODONTODACTYLUS" (CLASS CRUSTACEA)

By HEINRICH BALSS

(*Hauptkonservator der Zoologischen Staatssammlung, München, a D., Germany*)

(Commission's references Z.N.(S.)231, 209, 473, 474, 475)

(Letter dated 6th July, 1951)

Mr. L. B. Holthuis hat mir eine Reihe von Anträgen an die internationale Nomenklaturkommission zugesandt (Commission's references Z.N.(S.)231[5] (*Crangon*), 209[6] (*Ligia*), 473[7] (*Scyllarides*), 474[8] (*Lysiosquilla*), 475[9] (*Odontodactylus*)).

Ich erlaube mir, Ihnen mitzuteilen, dass ich mit allen seinen Vorschlägen einverstanden bin.

SUPPORT FOR THE PROPOSALS SUBMITTED BY DR. L. B. HOLTHUIS IN REGARD TO THE GENERIC NAMES "CRANGON," "LIGIA," "SCYLLARIDES,' "LYSIOSQUILLA," AND "ODONTODACTYLUS" (CLASS CRUSTACEA)

By E. SOLLAUD

(*Université de Lyon, Faculté des Sciences, Lyon*)

(Commission's references Z.N.(S.)231, 209, 473, 474, 475)

(Letter dated 11th July 1951)

Je reçois de mon collègue et ami Mr. Holthuis, du Museum de Leide, cinq notes relative à des propositions faites à l'International Commission on Zoological Nomenclature au sujet d'un certain nombre de noms de genres de Crustacés (Commission's references Z.N.(S.)231[5] (*Crangon*), 209[6] (*Ligia*), 473[7] (*Scyllarides*), 474[8] (*Lysiosquilla*), 475[9] (*Odontodactylus*).

Je vous informe que, après avoir lu attentivement ces notes, j'approuve entièrement les propositions de Mr. Holthuis. J'estime qu'une application rigoureuse, en toutes circonstances, du loi de priorité conduirait a d'inextricables confusions et, bien loin de servir notre science, lui serait tres préjudiciable. Il est impossible d'abandonner de noms tels que *Ligia*, *Crangon*, *Alpheus*, . . ., qui sont passés dans le langage courant, et votre Commission fera oeuvre bien utile en freinant l'ardeur des " puristes " de la Priorité.

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[5] See Holthuis, 1951, *Bull zool. Nomencl.* **2** : 69-72.
[6] See Buitendijk & Holthuis, 1951, *ibid.* **2** : 99-101.
[7] See Holthuis, 1951, *ibid.* **2** : 81-82.
[8] See Holthuis, 1951, *ibid.* **2** : 83-84.
[9] See Holthuis, 1951, *ibid.* **2** : 86-87.

SUPPORT FOR THE PROPOSALS RELATING TO THE GENERIC NAME "LIGIA" FABRICIUS, 1798 (CLASS CRUSTACEA, ORDER DECAPODA) AND ASSOCIATED PROBLEMS SUBMITTED BY THE LATE MISS M. BUITENDIJK AND DR. L. B. HOLTHUIS

By A. VANDEL

(*Laboratoire de Zoologie, Université de Toulouse, France*)

(Commission's reference Z.N.(S.)209)

(Extract from a letter dated 6th June, 1951)

Ligia. Entièrement d'accord avec feu Mlle. A. M. Buitendijk et M. L. B. Holthuis,[10] et Paul Heegard.—Il conviendrait seulement d'ajouter que cette question de nomenclature avait été déjà très nettement exposé et résolue dans le même sens par Fr. Dahl (1916, *Die Asseln oder Isopoden Deutschlands*, Jena : 32).

SUPPORT FOR PROFESSOR MUNRO FOX'S PROPOSAL THAT THE GENERIC NAME "MONOCULUS" LINNAEUS, 1758, SHOULD BE SUPPRESSED UNDER THE PLENARY POWERS

By JOSHUA L. BAILY, Jr.

(*San Diego, California, U.S.A.*)

(Commission's reference Z.N.(S.)377)

(Extract from a letter dated 22nd June, 1951)

With reference to the application submitted by Professor H. Munro Fox (1951, *Bull. zool. Nomencl.* **2** : 37-39), I am of the opinion that the generic name *Monoculus* Linnaeus, 1758, should be suppressed under the plenary powers before someone selects a type species for the genus so named, and, by doing so, upsets a long-established and universally understood name.

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[10] See footnote 6.

REQUEST THAT THE NAME "DORYLAS," AN AMENDATION BY KERTESZ (1910) OF THE NAME "DORILAS" MEIGEN, 1800 (CLASS INSECTA, ORDER DIPTERA), BE PLACED ON THE "OFFICIAL INDEX OF REJECTED AND INVALID GENERIC NAMES IN ZOOLOGY"

By D. ELMO HARDY

(*University of Hawaii, Department of Zoology and Entomology, Honolulu, Territory of Hawaii*)

(Commission's reference Z.N.(S.)221)

In my letter of 19th October 1950 (see 1951, *Bull. zool. Nomencl.* **2** : 144-145) I expressed my strong dissent from the proposal submitted by Mr. William F. Rapp (*Doane College, Crete, Nebraska, U.S.A.*) that the International Commission on Zoological Nomenclature should use its plenary powers for the purpose of suppressing the generic name *Dorilas* Meigen, 1800, and thus conferring availability upon its junior synonym *Pipunculus* Latreille, [1802-1803]. I see that Dr. John Smart (*University of Cambridge, Department of Zoology, Cambridge*) has now submitted a formal application to the International Commission, setting out the action which he recommends that the International Commission should take to confer availability upon the name *Pipunculus* Latreille (1951, *Bull. zool. Nomencl.* **2** : 148-149). In these circumstances it will, I think, be convenient if I formally submit a statement of the action which I ask the International Commission to take to make it clear that it is the name *Dorilas* Meigen, 1800, and not the name *Pipunculus* Latreille, [1802-1803], which is the correct name for the genus comprising the species *Pipunculus campestris* Latreille, [1802-1803], which is the type species of both these nominal genera.

Before making this formal submission, there is one matter connected with this case which has not been directly raised in any of the communications submitted to the International Commission, but on which is very desirable that a decision should be taken as part of any general settlement of this problem. I refer to the question of the spelling to be adopted for this Meigen name, namely whether the original spelling *Dorilas* should be used or whether the emendation *Dorylas* published by Kertesz in 1910 (*Cat. Dipt.* **7** : 368) should be used in its place. On this subject there are two considerations which I desire to lay before the Commission : First, it must be noted that, although the spelling *Dorylas* was frequently used in the literature, following the proposal put forward by Kertesz in 1910, that spelling has now for some time been completely replaced by the original spelling *Dorilas*, and confusion rather than uniformity would result if it were necessary now to revert to the discarded emendation *Dorylas*. Second, it may be noted that the spelling *Dorylas* has been used for a genus in the Order Coleoptera (*Dorylas* Dejean, 1835, *Cat. Coleopt.* (ed. 2) : 409). I accordingly ask that the Commission, when dealing with this case, should make it clear that it is the original spelling *Dorilas* and not the emended spelling *Dorylas* which should be used.

The proposal which, in continuation of my letter of 19th October 1950, I now submit is that the International Commission on Zoological Nomenclature should :—

(1) place the generic name *Dorilas* Meigen, 1800 (type species, by designation by Coquillet (1910) : *Pipunculus campestris* Latreille, [1802-1803]) (gender of generic name : masculine) on the *Official List of Generic Names in Zoology* ;

(2) place the trivial name *campestris* Latreille, [1802-1803] (as published in the binominal combination *Pipunculus campestris*) (trivial name of type species of *Dorilas* Meigen, 1800) on the *Official List of Specific Trivial Names in Zoology* ;

(3) place the under-mentioned generic names on the *Official Index of Rejected and Invalid Generic Names in Zoology* :—
   (a) *Pipunculus* Latreille, [1802-1803] (an objective junior synonym of *Pipunculus* Latreille, [1802-1803], the two nominal genera having the same species as type species) ;
   (b) *Dorylas* Kertesz, 1910 (an invalid emendation of *Dorilas* Meigen, 1800).

OBJECTION TO PROPOSAL SUBMITTED BY PROFESSOR MARTIN L. ACZÉL IN FAVOUR OF THE ADDITION OF THE NAME "TYLOS" TO THE "OFFICIAL LIST OF GENERIC NAMES IN ZOOLOGY"

By A. VANDEL

(*Laboratoire de Zoologie, Université de Toulouse, France*)

(Commission's reference Z.N.(S.)501)

(Extracts from letters dated 6th June and 20th July, 1951)

(a) *Extract from a letter dated 6th June*, 1951

L'adoption de *Tylos* Meigen, 1800, proposée par Aczél (: 156) (mais rejeté par Smart : 158) aurait le grave inconvénient d'etablir une homonymie avec un genre bien connu d'Isopodes Oniscoïdes, *Tylos* Latreille, 1825 (*in* Audouin et Savigny).

(b) *Extract from a letter dated 20th July*, 1951

En parlant de " genre bien connu," je voulais simplement exprimer que depuis 1825 le terme de *Tylos* est adopté sans exception par tous les carcinologistes. Il serait trop long d'en donner la liste complète, mais une énumération importante a été donnée par : Stebbing (T.R.R.)—1910, " Reports on the Marine Biology of the Sudanese Red Sea " (*J. linn. Soc. Lond.* (Zool.) 31. Voir pp. 226-227).

Il serait bien fâcheux qu'un nom employé de façon constante depuis 125 ans fût rejeté.

COMMENTS ON THE APPLICATIONS SUBMITTED TO THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE REGARDING THE GENERIC NAMES "TITANIA," "DORILAS," "TENDIPES," "PHILIA" AND "TYLOS" MEIGEN, 1800 (CLASS INSECTA, ORDER DIPTERA)

By W. HENNIG

(*Deutsches Entomologisches Institut, Berlin*)

(Commission's references Z.N.(S.)197, 221, 469, 498, 501)

(Letter dated 22nd May, 1951)

Asked by Professor E. M. Hering for a comment on the various proposals concerning the names of Dipterous genera (*Bull. zool. Nomencl.*, Vol. 2, Part 5) I wish to bring forward the following considerations :—

It is deeply to be regretted that the names of Meigen, 1800, were unearthed by Hendel (1908) and at that time every effort to suppress those names should have been supported.

Since, however, the suppression of the names of Meigen, 1800, *in toto* was rejected by *Opinion* 28, they were used in several fundamental publications such as Lindner's " Fliegen der paläarktischen Region " and other important revisionary works as pointed out by Aczél, Hardy, and Stone.

Every attempt to restore the names of Meigen, 1800, is, therefore, now 30 to 40 years too late and contributes to augmentation rather than diminution of confusion.

This is especially true in the case of the names *Tylos*, *Dorilas*, and also *Philia* and *Tendipes*, though for these latter two perhaps not quite to the same extent.

For this reason I fully agree with Aczél, Hardy, and Stone in the proposal to use the names *Tylos*, *Dorilas*, *Philia* and *Tandipes* instead of *Micropeza*, *Pipunculus*, *Dilophus*, and *Chironomus* respectively.

It is quite another situation with *Titania* versus *Chlorops*. *Titania* has never been used in recent publications. Its introduction in the place of the well-known and very important name *Chlorops* would lead, therefore, to considerable disadvantage and confusion, especially in the literature of economic entomology. I think that there will be general agreement in this case with the proposal of Dr. Sabrosky.

ON THE PROPOSAL THAT THE TRIVIAL NAME "AJAX" LINNAEUS, 1758 (AS PUBLISHED IN THE BINOMINAL COMBINATION "PAPILIO AJAX") SHOULD BE SUPPRESSED BY THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE UNDER ITS PLENARY POWERS

By CYRIL F. DOS PASSOS, LL.B.

(*Research Associate, Department of Insects and Spiders, American Museum of Natural History, New York*)

(Commission's reference Z.N.(S.)192)

(Note dated 15th May, 1951)

1. Reference is made to two prior papers on this subject published by the late A. Steven Corbet (1951, *Bull. zool. Nomencl.* **2** (1) : 26-29) and by Francis Hemming (*ibid.* **2** (1) : 29-30).

2. It having been ascertained by Corbet from an examination of the Linnean collection that the trivial name *ajax* Linnaeus, 1758 (as published in the binominal combination *Papilio ajax*) was proposed for an Oriental species later named *Papilio xuthus* by Linnaeus in 1767, although never used for that insect, but by error having been applied by some authors to two Nearctic butterflies, the question arises whether it would be better (*a*) to suppress the name *ajax*, or (*b*) to apply it (incorrectly) by a suspension of the *Règles* to one of the Nearctic insects for which it has sometimes been used.

3. This problem involves the names of two Nearctic and one Oriental *Papilio*. I shall consider only the two former. One of these is a subspecies of *Papilio polyxenes* Fabricius, 1775, sometimes known as the common American on the Black (or Parsnip) Swallowtail, and the other is often referred to as *Papilio marcellus* Cramer, [1777], or the Papaw or Zebra Swallowtail. There has been considerable confusion as to which scientific names should be employed for these insects. Recent American authors have shown a tendency to abandon the name *ajax* for either of them, although one follows McDunnough (1938, " Check List of the Lepidoptera of Canada and the United States of America ". *Mem. S. Calif. Acad. Sci.* **1** : 5) and uses *ajax* for the first-mentioned butterfly. Holland (1931, *Butterfly Book* (revised ed.) : 314) used *asterius* for the subspecies of *polyxenes* inhabiting North America, and *ajax* for the more southerly Papaw or Zebra Swallowtail in direct contradiction to the then current Barnes & Benjamin list (1926, " Check List of the Lepidoptera of Boreal America ". *Bull. S. Calif. Acad. Sec.* **25**(1) : 5). Clark (1932, " Butterflies of the District of Columbia and vicinity ", *Bull. U.S. nat. Mus.* **157** : 191) used *asterias* for the Nearctic subspecies of *polyxenes* but *marcellus* Boisduval (*recte* Cramer) for the Papaw or Zebra Swallowtail and omitted *ajax* entirely. Macy and Shepard ([1941], *Butterflies, a Handbook of the butterflies of the United Sstates, complete for the Region north of the Potomac and Ohio Rivers and east of the Dakotas* : iii) stated that " . . . In order to achieve uniformity, . . . " they followed the nomenclature of the McDunnough check list. Brown (1951, " The American Papilios ", *The Lepidopterists' News* **4** : 63) also used *ajax* for the species *polyxenes*. Finally, Klots (1951, *A Field Guide to the butterflies of North America, east of the Great Plains* : 172) employed *asterius* Stoll, [1784], for the Nearctic subspecies *polyxenes* and omitted *ajax*, except that (erroneously) he placed *ajax* Clerck, 1764, in the synonymy.

4. Thus we find *ajax* in recent years used for two different species of Nearctic butterflies which have valid names, i.e. *asterius* and *marcellus*, and on top of that it is now descovered that *ajax* is not properly applicable to either of them. In view of the improper use of *ajax*, the lack of uniformity among American authors respecting the applicability of that name to one Nearctic species, and the fact that some authors have dropped the name entirely, no harm and much good would be done by the suppression of the name *ajax* and that course is undoubtedly the most desirable one to follow. Therefore, I recommend that the International Commission on Zoological Nomenclature take such action.

SUPPORT FOR THE PROPOSAL SUBMITTED BY THE LATE DR. A. STEVEN CORBET FOR THE SUPPRESSION OF THE TRIVIAL NAME "AJAX" LINNAEUS, 1758 (AS PUBLISHED IN THE BINOMINAL COMBINATION "PAPILIO AJAX") (CLASS INSECTA, ORDER LEPIDOPTERA)

By ERICH MARTIN HERING

(*Zoologisches Museum der Humboldt-Universität, Berlin*)

(Commission's reference Z.N.(S.)192)

(Letter dated 28th May, 1951)

There is no doubt that, under a strict application of the Rules, the trivial name *ajax* Linnaeus, 1758 (as published in the combination *Papilio ajax*) should be employed for the species generally known as *Papilio xuthus* Linnaeus, 1767. To prevent the confusion which would follow if *ajax* Linnaeus, 1758, were to replace *xuthus* Linnaeus, 1767, I propose that the International Commission on Zoological Nomenclature should use its plenary powers to suppress the trivial name *ajax* Linnaeus, 1758, altogether.

PROPOSED USE OF THE PLENARY POWERS TO DETERMINE THE SPECIES TO WHICH THE TRIVIAL NAME "SIRTALIS" LINNAEUS, 1758 (AS PUBLISHED IN THE BINOMINAL COMBINATION "COLUBER SIRTALIS") (CLASS REPTILIA) IS TO BE APPLIED: SUPPORT FOR APPLICATION SUBMITTED BY DR. KARL P. SCHMIDT AND MR. ROGER CONANT

By LAURENCE M. KLAUBER
(*San Diego, California, U.S.A.*)

(Commission's reference Z.N.(S.)433)

(Letter dated 22nd May, 1951)

Reference is made to the above-mentioned case, discussed on pages 67-68, *Bulletin of Zoological Nomenclature*, vol. 2, Pt. 3, and the request for comments appearing in *Science*, vol. 113, p. 560. Messrs. Karl P. Schmidt and Roger Conant, in their original statement of the case to the Commission, list my name, among others, as being favourable to the change indicated as necessary under the Rules, in my paper published in *Copeia* in 1948. As a matter of fact, although the change was originally shown by me to be technically necessary, I am not in favour of the change, now that the Commission's plenary powers have been modified to include the conservation of trivial names. Therefore, I join with the majority of American herpetologists in recommending that the Commission direct the use of the trivial name *sirtalis* for the common garter snake, and of the trivial name *sauritus* for the northern ribbon snake.

The particularly confusing situation caused by the transference of the Linnean name *sirtalis* from one group of garter snakes (the common group) to another (the ribbon group), as demanded by the old Rules, does not exist in the case of the other necessary changes in Linnean names to which I called attention in 1948. The latter changes should stand.

SUPPORT FOR THE PROPOSAL SUBMITTED BY DR. KARL P. SCHMIDT AND MR. ROGER CONANT THAT THE TRIVIAL NAME "SIRTALIS" LINNAEUS, 1758 (AS PUBLISHED IN THE BINOMINAL COMBINATION "COLUBER SIRTALIS") (CLASS REPTILIA) SHOULD BE PRESERVED FOR USE IN ITS EXISTING SENSE UNDER THE PLENARY POWERS

By MURRAY L. JOHNSON, M.D.
(*Tacoma, Washington, U.S.A.*)

(Commission's reference Z.N.(S.)433)

(Letter dated 9th July, 1951)

Here is a good example where the International Commission may act to conserve order in a difficult enough species, taxonomically speaking. I have the highest regard for Dr. Lawrence Klauber and believe his scientific reasoning to be without question, but I take serious issue with the propriety of changing a well established name. I am very glad therefore to learn that in this case Dr. Klauber has notified his support for the use of the plenary powers to preserve the name *sirtalis* Linnaeus. The objections to discarding this name are very strong : The original Linnean specimens are not extant ; the original Linnean description is certainly not adequate by modern standards and yet under the Code we should apply these modern standards retrospectively to identify the species described by Linnaeus. In as much as there are hundreds of articles and tens of thousands of catalogued specimens, entries on cards and in catalogues, I implore you to use your good offices permanently to stabilize this point of nomenclature. I feel very strongly that the International Rules of Zoological Nomenclature should be suspended in the case of *Thamnophis sirtalis* (Linnaeus), to retain that name. The reasons put forward for the change are not adequate in modern taxonomy, in my opinion.

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Important Notice

Part 12 of the present volume containing the Title Page, Table of Contents and Indexes is in the press and will be published shortly.

Publications of the International Commission on Zoological Nomenclature

All inquiries regarding the publications issued by the International Trust for Zoological Nomenclature on behalf of the International Commission on Zoological Nomenclature, should be addressed to the Publications Officer, Offices of the International Trust for Zoological Nomenclature, 41, Queen's Gate, London, S.W.7, England.

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The Official Organ of

THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

Edited by

FRANCIS HEMMING, C.M.G., C.B.E.

Secretary to the International Commission on Zoological Nomenclature

PURCHASED
21 ... 1953

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Secretariat of the Commission : 28, Park Village East, Regent's Park, London, N.W.1.

Offices of the Trust : 41, Queen's Gate, London, S.W.7

ANNUAL REPORT OF THE COMMITTEE OF MANAGEMENT OF THE INTERNATIONAL TRUST FOR ZOOLOGICAL NOMENCLATURE FOR THE YEAR 1949

(Report approved and adopted by the International Trust for Zoological Nomenclature in Annual General Meeting)

The year 1949 was one of great activity for the International Trust, for during it great progress was made in the preparations for the simultaneous publication of the three volumes of the *Bulletin of Zoological Nomenclature* which in the previous year it had been decided to devote to the publication of the records of the discussions on zoological nomenclature which had taken place at the meetings of the International Commission on Zoological Nomenclature and of the Thirteenth International Congress of Zoology held concurrently at Paris in July 1948. The volumes in question were, it will be recalled : Volume 3, to be devoted to the publication of the documents relating to questions of zoological nomenclature that were considered by the Commission and the Congress in 1948 ; Volume 4, which was reserved for the publication of the *Official Record of Proceedings* of the International Commission during its Paris Session ; Volume 5, which was similarly reserved for the publication of the *Official Record of Proceedings* of the Section on Nomenclature of the Thirteenth International Congress of Zoology, and of the Reports then submitted by the Commission to the Congress, responsibility for publishing which was accepted last year by the Trust at the request of the Secretary-General of the Congress.

2. Principal activities during the year : The printing of Volume 3 of the *Bulletin* was completed early during the year. but it was judged better to defer publication of this volume until the companion volumes containing the record of the decisions taken by the Commission and the Congress on the matters dealt with in Volume 3 were available. for it was felt that the publication of Volume 3 containing the proposals submitted to the Paris meetings might give rise to misunderstanding if it took place earlier than that of the volumes containing the record of the decisions reached on those proposals. Early in the year the first instalments of the draft of the *Official Record of Proceedings* of the Commission in Paris were received from the Secretary to the Commission and these were at once sent to the printers for proofs. Further instalments followed rapidly, the last portion being received towards the end of the summer. Concurrently with the above, instalments were received of the draft of the *Official Record of Proceedings* of the Section

Bull. zool. Nomencl., Vol. 2 (December 1952)

on Nomenclature of the Congress; these were at once sent to the printer, and proofs of these also were received by the end of the summer. After these proofs had been checked by the Secretary to the Commission against the original records, the Trust, in accordance with the request addressed to it by the Thirteenth International Congress of Zoology, obtained from the printer page-proofs printed on air mail paper for despatch to the persons whose approval of the drafts prepared by the Secretary was required before the texts could be settled as being definitive. In December 1949 these air mail proofs were despatched to all concerned with a request that they would signify their opinion as to the accuracy and completeness of the draft of the *Official Records of Proceedings* of the Commission and of the Section on Nomenclature within the time limit prescribed by the Paris Congress. This period is due to expire early in January 1950 and it may be hoped therefore that publication of all three volumes will take place early in the year 1950.

3. Publications: Although no parts of the *Bulletin of Zoological Nomenclature* and no *Opinions* or *Declarations* were published during the year 1949, sales of back parts of previously issued publications (£149) remained at a gratifying level and were almost as high as in 1948 (when they amounted to £175).

4. Donations: As in the years 1947 and 1948 the main source from which the expenditure of the Trust was defrayed in the year 1949 was the grant received from U.N.E.S.C.O. This was in two parts; the first and much the larger (£2,673) consisted of the unexpended balance of the grants for the years 1947 and 1948, for the use of which in 1949 permission had been received from U.N.E.S.C.O. The second contribution from U.N.E.S.C.O. consisted of a fresh grant amounting to £145, which was received during the course of the year 1949 through the intermediary of the International Union for Biological Sciences, the approved medium for the distribution of grants by U.N.E.S.C.O. for scientific projects in the biological field. During the year also a gift of £25 was received from the Royal Entomological Society of London.

5. Thanks for financial assistance received: The Committee of Management desire once again to place on record their high appreciation of the understanding and sympathy shown by U.N.E.S.C.O. in their consideration of the international needs of zoological nomenclature and are happy once more to have an opportunity of expressing their grateful thanks for the munificent subvention granted to the work of the International Commission on Zoological Nomenclature. The Committee of Management desire also to thank the Royal Entomological Society of London for its continued support.

6. Total Income in 1949: The total income of the Trust in 1949, as derived from the sources described above, amounted to £2,292, an increase of £1,294 over the Income (£1,689) received in the previous year.

7. Printing of three volumes of the "Bulletin of Zoological Nomenclature": In the opening portion of the present Report particulars have been given of the progress made in 1949 in the preparation of Volumes 3, 4, and 5 of the *Bulletin of Zoological Nomenclature.* The expenditure so involved amounted to £2,384 3s. 6d.

8. Administrative expenses : Administrative expenses during the year amounted to £429 14s. 1d. or £225 less than in 1948. This reduction was largely due to the fact that the post of whole-time salaried Assistant Director which was discontinued early in 1948 was not revived in 1949, and in consequence expenditure on salaries (£204) was £110 less than in 1948. In 1949 it was not necessary for the Trust to defray any expenditure on official travelling, whereas in 1948 it had been necessary to arrange for the establishment of a temporary Secretariat for the Commission in Paris during the Session of the Commission held in that city concurrently with the meeting of the Thirteenth International Congress of Zoology. Great care has continued to be exercised in the control of office expenses which in the year under review amounted to £204 or only £8 more than in 1948, notwithstanding the considerable increase in business which in 1949 passed through the Offices both of the Commission and of the Trust.

9. Balance carried down : After taking account of a small item (£19 17s. 9d.) in respect of depreciation of Office Equipment, in addition to the items described above, there remained an excess of income over expenditure of £158 16s. 0d., which was carried down. When this was added to the sum of £669 16s. 4d. brought forward from 31st December 1948, the total balance at the end of 1949 is seen to have been £888 12s. 4d.

10. Balance Sheet : The Balance Sheet calls for little comment. No change took place during the year in the Office Equipment Reserve, while an expenditure of £127 18s. 4d. was made from the " Official List " Suspense Account. This latter expenditure almost offset the balance carried down (£158 16s. 0d.) this year and in consequence the Income and Expenditure Account Balance at the end of 1949 amounted to £1,348 10s. 4d. or only £30 more than at the end of 1948. No change occurred during the year in the provision made in respect of the cost of the revision of the *Règles Internationales de la Nomenclature Zoologique*, the responsibility for publication of which the Trust accepted last year at the request of the Thirteenth International Congress of Zoology.

11. The general outlook : As will be seen from the foregoing particulars the financial position of the Trust has remained virtually unchanged during the year 1949. Nevertheless, the position is potentially better than the accounts now presented would at first sight suggest, for it may confidently be expected that when in 1950 the three volumes of the *Bulletin of Zoological Nomenclature* on the printing of which such large sums have been expended both this year and in 1948, are published, the Trust will reap a substantial gain from the sales so secured. While from the strictly financial point of view, the position of the

Trust and therefore of the Commission, may be considered satisfactory, the underlying dangers to which the Trust has had occasion to refer on a number of previous occasions remain as serious as ever. For the situation must continue to be essentially insecure for so long as the whole of the scientific work of the Commission, which already would give full employment to a highly paid scientific officer, continues to be performed free of charge by an honorary spare-time officer, the present Secretary to the Commission, assisted only by an honorary spare-time Personal Assistant (the wife of the present Secretary). Looked at from this point of view, the outlook could hardly be more uncertain, for, as the present Accounts show, with its present financial resources, the Trust would be quite unable to find the funds required to employ salaried officials to carry on the work of the Secretariat of the Commission. At the present time therefore the continuance of the work of the Commission is rendered possible only by the services freely given to the Commission by its honorary officers. The situation is thus highly precarious, since, if at any time these honorary officers ceased to be available, the work of the Commission would necessarily suffer an abrupt interruption. The Committee of Management propose to bring this matter before the International Union for Biological Services at the General Assembly of the Union to be held in Stockholm next year in the hope that it may be possible, with the help of the Union, to devise financial arrangements which will at least mitigate the worst of the dangers inherent in the present situation.

12. Presentation of Accounts for the year 1949 and Balance Sheet as at 31st December 1949 : With the foregoing explanations the Committee of Management has pleasure in presenting to the International Trust for Zoological Nomenclature for approval the Accounts for the Year 1949 and the Balance Sheet as at 31st December 1949. The Committee of Management desire to take this opportunity of recording their thanks to their landlords, the Royal Entomological Society of London, to their printers, Messrs. Metchim and Son Ltd., who have devoted great pains to secure the highest possible standard of accuracy and clarity of lay-out of the three important volumes of the *Bulletin of Zoological Nomenclature*, the greater part of which was printed in the year under review, and also to Mrs. C. Rosner, their part-time Publications Officer, who has continued to show great diligence in the discharge of her duties and in her search for additional subscriptions for the publications issued by the Trust. Finally, the Committee of Management has pleasure once again in recording their thanks to the auditors of the Trust, Messrs. W. B. Keen and Co., Chartered Accountants, and in particular to Mr. R. W. M. Taylor, the representative of that firm who, as in previous years, has always shown himself anxious and willing to assist on all matters referred to him for advice.

Offices of the International Trust for Zoological Nomenclature,
41 Queen's Gate,
London, S.W.7.
20*th March* 1950.

INTERNATIONAL TRUST
FOR
ZOOLOGICAL NOMENCLATURE

Accounts for the Year 1950

INTERNATIONAL TRUST FOR

Incorporated under the Companies

Balance Sheet—

1948 *£*	*£*		£	s.	d.	£	s.	d.
		REVENUE RESERVES (per Separate Accounts) :						
	550	"Official List" Suspense Account	422	1	8			
648	*98*	Office Equipment Reserve	97	16	8	519	18	4
670		Income and Expenditure Account—Balance ...				828	12	4
1,318						1,348	10	8
		Provision for cost of Revision of International Code :						
800		"International Code (Publication)" Suspense Account—Per Separate Account				800	0	0
		LIABILITIES :						
	1,386	Sundry Creditors	3,334	12	10			
4,059	*2,673*	Grant by U.N.E.S.C.O. unspent (estimated) ...	—			3,334	12	10
£6,177						£5,483	3	6

We have obtained all the information and explanations which to the best of our
of account have been kept so far as appears from our examination of those books. We have
are in agreement with the books of account. In our opinion and to the best of our information
the Companies Act, 1948, in the manner so required, and the Balance Sheet gives a true and fair
account gives a true and fair view of the Excess of Income over Expenditure for the year ended

Finsbury Circus House,
Blomfield Street,
LONDON, E.C.2.

ZOOLOGICAL NOMENCLATURE

Act, 1929. (Limited by Guarantee)

31st December 1949

1948						
£	*£*	*£*		£ s. d.	£ s. d.	£ s. d.
			Fixed Assets :			
			Office Equipment :			
	112		Book Value at 31st December 1947 (being for the purpose of the Companies Act, the value at 1st July 1948)		111 17 6	
	—		Additions during year at cost		98 3 3	
	112				210 0 9	
			Less Depreciation			
			to 31st December 1948...	11 3 6		
101	*11*	*11*	for Year to date ...	19 17 9	31 1 3	178 19 6
			Current Assets :			
	50		Amounts due for Publications valued at		45 0 0	
6,076	*6,026*		Balance at Bank and Cash in Hand		5,259 4 0	5,304 4 0
			(Note.—Stock of Publications Not Valued)			
£6,177						£5,483 3 6

FRANCIS HEMMING } Members of the
A. S. PANKHURST } Committee of Management.

knowledge and belief were necessary for the purpose of our audit. In our opinion proper books
examined the above Balance Sheet and accompanying Income and Expenditure Account, which
and according to the explanations given us, the said accounts give the information required by
view of the state of the Trust's affairs at 31st December 1949, and the Income and Expenditure
at that date.

W. B. KEEN & Co.
Chartered Accountants.
17th March, 1950.

Income and Expenditure Account for

1948 £	£	INCOME	£	s.	d.	£	s.	d.
		To Sales of Publications:						
	126	Opinions & Declarations	113	6	6			
175	*49*	Bulletin of Zoological Nomenclature	35	15	6	149	2	0
27		Donations				25	0	0
1,496		Grant from U.N.E.S.C.O.				2,673	9	4
—		do. per the International Union of Biological Sciences				145	0	0
£1,698						£2,992	11	4

1948 £		£	s.	d.
28	To Balance brought down being Excess of Income over Expenditure for year	158	16	0
1,112	Balance 31st December 1948 brought forward...	669	16	4
£1,170		£828	12	4

"Official List"

1948 £		£	s.	d.
—	To Expenditure during year	127	18	4
550	Balance carried to Balance Sheet	422	1	8
£550		£550	0	0

Office Equipment

1948 £		£	s.	d.
£98	To Balance carried to Balance Sheet	£97	16	8

"International Code (Publication)"

1948 £		£	s.	d.
800	To Balance carried to Balance Sheet	800	0	0
£800		£800	0	0

the Year ended 31st December 1949

1948 £	£	£	EXPENDITURE	£	s.	d.	£	s.	d.	£	s.	d.
			By Administration Expenses :									
			Salaries :									
		110	Assistant Director ...	—								
		175	Publications Officer ...	167	2	4						
	314	*29*	Stenographer Secretary ...	37	7	5	204	9	9			
	124		Travelling Expenses ...				—					
	196		Office Expenses				204	4	4			
655	*21*		Audit Fee				21	0	0	429	14	1
11			Depreciation of Office Equipment							19	17	9
1,004			Publications — Bulletin of Zoological Nomenclature ...							2,384	3	6
28			Balance carried down ...							158	16	0
£1,698										£2,992	11	4
500			By Transfer to " International Code (Publication)" Suspense Account towards cost of Revision of International Code							—		
670			Balance carried to Balance Sheet							828	12	4
£1,170										£828	12	4

Suspense Account

1948 £		£	s.	d.
550	By Balance at 31st December 1948	550	0	0
£550		£550	0	0

Reserve

1948 £		£	s.	d.
£98	By Balance at 31st December 1948	£97	16	8

Suspense Account

1948 £		£	s.	d.
300	By Balance at 31st December 1948...	800	0	0
500	Transfer from Income and Expenditure Account ...	—		
£800		£800	0	0

ANNUAL REPORT OF THE COMMITTEE OF MANAGEMENT OF THE INTERNATIONAL TRUST FOR ZOOLOGICAL NOMENCLATURE FOR THE YEAR 1950

(Report approved and adopted by the International Trust for Zoological Nomenclature in Annual General Meeting)

As forecast in the Report for the year 1949 a rich harvest was garnered in 1950 from the expenditure incurred in printing the three volumes (volumes 3, 4 and 5) of the *Bulletin of Zoological Nomenclature* devoted to the Paris records on which so much work had been devoted and on which such large sums had been expended throughout the whole of 1949 and the latter part also of 1948. As will be seen from the present Report the substantial income obtained from the sale of these volumes almost offset the disappearance of the large grant from U.N.E.S.C.O. received in 1949.

2. Publications : During the year the whole of Volume 3 of the *Bulletin of Zoological Nomenclature* (comprising the documents considered by the Commission and the Congress in Paris in 1948) and Volume 4 (comprising the *Official Record of Proceedings* of the International Commission at its Paris Session) were published ; Volume 3 was published in three Triple Parts at a total price of four guineas ; Volume 4 was published in eight Triple Parts at a total price of eleven pounds, twelve shillings. In addition, two Triple Parts (priced at one pound, eight shillings each) of Volume 5 were published during the year ; the portion published comprised the *Official Record of Proceedings* of the Section on Nomenclature of the Thirteenth International Congress of Zoology, Paris, 1948, an extract from the *Official Record* of the Final Plenary Session of that Congress (when the recommendations of the Commission and the Section on Nomenclature were approved), together with two of the three Reports then submitted to the Congress. The total income from the sale of the *Bulletin* amounted to the gratifyingly large sum of £2,691 18s. 4d., of which by far the greater part was in respect of sales of the three volumes published during the year. No *Opinions* or *Declarations* were published during the year but the sale of back parts produced £40 16s., a significant testimony to the continuing interest in this series of publications. The total income from sales thus amounted to £2,732 14s. 4d.

3. Donations : The Committee of Management has to note, and expresses its grateful thanks for, the following donations received during the year : U.N.E.S.C.O. (through the International Union for Biological Sciences), £120 ; Royal Entomological Society of London, £25.

4. Total income : The total income of the Trust in 1950, made up of the foregoing items, amounted to £2,877 14s. 4d. or only £115 less than in the year 1949, when, in addition to a grant of £145 received through I.U.B.S., U.N.E.S.C.O. had made a direct grant of £2,673. While it was inevitably a source of great disappointment to the Committee of Management—as the Committee does not doubt that it will be also to the Trust—that U.N.E.S.C.O. should have abandoned the policy initiated in 1947 under which it made substantial grants to the Trust for the furtherence of the work of the International Commission on Zoological Nomenclature, the Commission of Management is deeply conscious of the great value of the assistance rendered in this field by U.N.E.S.C.O. in the years 1947–1949. As explained in a later paragraph (paragraph 24) of the present Report, the Committee of Management are hopeful that, as the result of the good offices of the International Union for Biological Sciences, U.N.E.S.C.O. may yet render further assistance to the work of the Commission by making a grant to cover the period in which the Trust is endeavouring to provide itself with a permanent source of income.

5. Administrative expenses : During the year 1950 administrative expenses amounted to £546 0s. 11d., an increase of £117 over the expenditure so incurred in 1949. Salaries were at exactly the same level (£204) as in 1949 but office expenses have inevitably risen, partly as the result of a heavy increase in expenditure on postage consequent upon the use of airmail to a greatly increased extent for the purpose of speeding up the work of the Commission, but, mainly because of an increased consumption of paper and office requisites, coupled with the constantly rising cost of replacing stocks. In addition, the expenditure of a sum of £71 on travelling and subsistence was authorised by the Committee of Management in respect of the journey which at its request its Managing Director and Secretary made to Stockholm for the purpose of seeking Financial assistance for the Trust from the International Union of Biological Sciences at its General Assembly held in July 1950.

6. Depreciation of Office Equipment : The sum of £17 17s. 11d. was devoted to covering depreciation of Office Equipment.

7. Cost of Printing : Expenditure on printing during the year amounted to £394 12s. 3d., all in respect of the *Bulletin of Zoological Nomenclature.* Of this expenditure the greater part was in respect of the concluding Triple Part of Volume 4, while the remainder was in respect of printing the first instalment of Volume 2, the publication of which had, by a decision taken in 1948, been postponed until after the completion (or virtual completion) of the publication of the three Paris volumes of the *Bulletin*. It may here be noted as a satisfactory sign of the essential buoyancy of the demand for the publications of the Trust, that as against the total expenditure on printing volumes 3, 4 and 5 of the *Bulletin* in the years 1948–1950, the greater part was recovered in the form of sales within the twelve months following publication.

8. Balance carried down : The excess of income over expenditure during the year amounted, as the foregoing particulars show, to the sum of £1,919 3s. 3d. This was carried down. When to this is added the sum of £828 12s. 4d. (the balance brought forward from 31st December, 1949), the total balance is seen to have been £2,747 15s. 7d. From this however has to be deducted a sum of £200 which during the year was transferred to the "International Code (Publication)" Suspense Account. The net sum carried to the Balance Sheet was therefore £2,547 15s. 7d.

9. Provision for the preparation and publication of the revised edition of the "Règles Internationales de la Nomenclature Zoologique" : As explained above, a further sum of £200 was put on one side in 1950 towards meeting the cost of preparing and publishing the revised edition of the *Règles Internationales de la Nomenclature Zoologique* adopted by the Thirteenth International Congress of Zoology at Paris in 1948. The addition of this sum to the resources already earmarked for this purpose raises the total provision so made to £1,000.

10. Balance Sheet as at 31st December 1950 : The Balance Sheet shows that at 31st December 1950 the Income and Expenditure Account Balance amounted to £3,067 13s. 11d., an increase of £1,719 3s. 9d. over the level at which this balance stood at the end of 1949 (£1,348 10s. 2d.). From the financial point of view, the out-turn of the year 1950 is, in the opinion of the Committee of Management, extremely satisfactory, and it does not doubt that this view will be shared by the other members of the Trust.

11. Negotiations for securing a permanent source of income for the Trust : Reference has already been made to the decision by the Committee of Management to ask its Managing Director and Secretary to proceed to Stockholm in the summer of 1950 to act as the principal representative of the Trust at the General Assembly of the International Union for Biological Sciences. The Trust was entitled to a delegation of four Representatives. The Trust appointed a strong Delegation consisting of the Managing Director and Secretary to the Trust (who is also Secretary to the International Commission) as Chief Delegate, of two other members of the Commission (Mr. N. D. Riley of the British Museum (Natural History), London, and Professor Erich Martin Hering of the Zoological Museum, Berlin, and one other member of the Trust (Mrs. M. F. W. Hemming), all three of whom were in any case intending to be in Stockholm on the date in question and whose appointment as delegates involved no expenditure on the part of the Trust. The instructions given to the Delegation was that it was to do everything in its power to impress upon the International Union for Biological Sciences the extreme urgency and importance of securing an adequate and assured annual income, for the Trust, in order thereby to ensure the continuance of the international regulation of zoological nomenclature, that being a basic requirement for the development of zoological science. The Delegation was instructed to press these views upon both the Section for Zoology and the Section for Entomology and also to do everything possible to organise a basis of mutual support for the promotion of scientific nomenclature both with the Section on Botany of the Union and also, if possible, directly also with International Botanical Congress which was due also to meet in Stockholm at the same time. The Delegation was further instructed to urge upon the Union in General Assembly a twofold proposal for the promotion and development of the work of the International Commission on Zoological Nomenclature Commission; under the first part of these instructions the Delegation was to urge the Union to take the initiative in appointing a Committee charged with the duty of devising a long-term plan for financing the work of the Commission on the basis of agreed annual contributions to be paid by institutions in different parts of the world concerned in one or another way with the development of work in the biological field; under the second part of its instructions the Delegation was to seek to secure from the General Assembly of the Union the adoption of a Resolution urging U.N.E.S.C.O. to make a substantial grant to cover the period in which the long-term financial plan was being worked out.

12. The discussions at the Stockholm General Assembly and the accompanying informal negotiations proved arduous and difficult in many ways. The Delegation was fortunate however in securing the sympathetic support of the entomologists and other zoologists present and they achieved a high degree of friendly co-operation with the botanists both inside the membership of the Union and also in the International Botanical Congress. At the last Plenary Session the Delegation, working closely with their botanical colleagues, obtained the unanimous adoption by the General Assembly of the Union of a Resolution stressing the great importance to zoology and botany respectively of the orderly development of international law in the field of scientific nomenclature, and urging U.N.E.S.C.O. to provide the grant required while the long-term plan advocated by the Trust was being devised. The Union approved also the proposal to appoint a high-level Committee to draw up the long-term plan and it is highly gratifying to the Committee of Management that Dr. Gavin de Beer, F.R.S., Director of the British Museum (Natural History) should have accepted the chairmanship of this important body.

13. The need for securing a firm financial basis for the work of the International Commission to which reference was made by the Committee of Management at the close of its Report for 1949 is extremely urgent. On the other hand, it is extremely difficult to obtain firm promises of financial support on the basis only of a programme of work, and efforts to obtain such support are much more likely to prove successful if the body making the appeal can point to a start having been made in the work projected, notwithstanding the handicaps imposed through lack of adequate funds. Already by 1950 the International Commission had recently secured important progress in the development of zoological nomenclature through the part which (as evidenced by Volume 4 of the *Bulletin*) it had played in securing the reform, clarification and development of the *Règles Internationales de la Nomenclature Zoologique*. But in other fields of its work—fields to which zoologists and palaeontologists confronted in their work with practical difficulties attach very great importance—the International Commission had for a number of years found it impossible (mainly through its preoccupation with matters relating to the reform of the *Règles*) to make any progress and it was in consequence faced with very heavy arrears. The sides of the work of the Commission concerned were (1) its judicial functions as the supreme interpreter of the *Règles* in relation to individual nomenclatorial problems and (2) the promotion of stability in nomenclature by the development of the *Official Lists.* It was accordingly decided that it was desirable that the Commission should furnish concrete evidence of its ability to deal with these important parts of its duties before any advance could usefully be made by the Committee presided over by Dr. de Beer. Immediately, therefore that the Paris volumes of the *Bulletin* were published (with the exception of the concluding portion of Volume 5, which it was judged could without harm be delayed for a time), steps were put in hand to start the publication of a new volume (Volume 2) of the *Bulletin* devoted entirely to applications for decisions on particular nomenclatorial problems and to proposals for the addition of names to the *Official Lists.* The Committee of Management hopes therefore that, when it comes to submit its Report for the year 1951, it will be able to report that the foregoing obstacle to advance has been overcome by the publication of the volumes of the *Bulletin* referred to above, and a further stage reached towards devising the long-term financial plan which it has so much at heart. The Committee of Management realises that the other members of the Trust fully share its views as to the cardinal importance of securing a settlement of this vital problem and it believes therefore that the Trust will be glad to receive the foregoing Report on the action initiated by its Committee of Management at Stockholm in the summer of 1950 and of the measures taken and projected for furthering the ends which it was the object of that action to secure.

14. Presentation of Accounts for the Year 1950 and Balance Sheet as at 31st December 1950 : With the foregoing explanations the Committee of Management has pleasure in presenting to the Trust the Accounts for the year 1950 and the Balance Sheet as at 31st December 1950. In doing so, the Committee of Management once again has the pleasant duty of recording its thanks to its Honorary Managing Director and Secretary (Mr. Francis Hemming) and to his Honorary Personal Assistant, his wife (Mrs. M. F. W. Hemming) for the services which they have rendered during the year, to Mrs. C. Rosner, the Publications Officer, and to the Auditors of the Trust, Messrs W. B. Keen & Co., Chartered Accountants, and their representative Mr. R. W. M. Taylor, for the constant assistance freely given during the year under review.

Offices of the International Trust for Zoological Nomenclature,
41, Queen's Gate,
London, S.W.7, England.
24th October 1951.

INTERNATIONAL TRUST

FOR

ZOOLOGICAL NOMENCLATURE

Accounts for the Year 1950

INTERNATIONAL TRUST FOR

Incorporated under the Companies

Balance Sheet—

1949 £	£		£	s.	d.	£	s.	d.
		REVENUE RESERVES (per Separate Accounts) :						
	422	"Official List" Suspense Account	422	1	8			
	98	Office Equipment Reserve	97	16	8			
1,349	*829*	Income and Expenditure Account—Balance ...	2,547	15	7	3,067	13	11
		PROVISION for Cost of Revision of International Code :						
800		"International Code (Publication)" Suspense Account (per separate account)				1,000	0	0
		LIABILITIES :						
3,334		Sundry Creditors				241	8	5
£5,483						£4,309	2	4

We have obtained all the information and explanations which to the best of our
of account have been kept so far as appears from our examination of those books. We have
are in agreement with the books of account. In our opinion and to the best of our information
the Companies Act, 1948, in the manner so required, and the Balance Sheet gives a true and fair
Account gives a true and fair view of the Excess of Income over Expenditure for the year ended

Finsbury Circus House,
Blomfield Street,
LONDON, E.C.2.

ZOOLOGICAL NOMENCLATURE

Act, 1929. (Limited by Guarantee)

31st December 1950

1949 £	£	£		£ s. d.	£ s. d.	£ s. d.
			FIXED ASSETS :			
			Office Equipment :			
	112		Book Value at 31st Dec., 1947 (being for the Companies Act 1948 the value at 1st July 1948)		111 17 6	
	98		Additions since to 31st Dec., 1949 at cost		98 3 3	
	210				210 0 9	
			Less Depreciation :			
		11	To 31st December 1949 ...	31 1 3		
179	*31*	*20*	For year to date	17 17 11	48 19 2	161 1 7
			CURRENT ASSETS :			
	45		Amounts due for Publications, etc., valued at		311 16 4	
5,304	*5,259*		Balance at Bank and Cash in Hand		3,836 4 5	4,148 0 9
			(Note—Stock of Publications not valued)			
£5,483						£4,309 2 4

FRANCIS HEMMING } Members of the
A. S. PANKHURST } Committee of Management

knowledge and belief were necessary for the purpose of our audit. In our opinion proper books examined the above Balance Sheet and accompanying Income and Expenditure Account, which and according to the explanations given us, the said accounts give the information required by view of the state of the Trust's affairs at 31st December 1950, and the Income and Expenditure on that date.

W. B. KEEN & Co.
Chartered Accountants.
1*st October*, 1950.

Income and Expenditure Account for

1949 *£*	*£*	INCOME	£ s. d.	£ s. d.
		To Sales of Publications :		
	113	Opinions and Declarations	40 16 0	
149	*36*	Bulletin of Zoological Nomenclature	2,691 18 4	2,732 14 4
25		Donation		25 0 0
2,673		Grant from U.N.E.S.C.O.		— — —
145		ditto per the International Union of Biological Sciences		120 0 0
£2,992				£2,877 14 4
159		To Balance brought down		1,919 3 3
670		Balance at 31st December 1949 brought forward		828 12 4
£829				£2,747 15 7

" Official List "

550	To Balance at 31st December 1949 brought forward	422 1 8
£550		£422 1 8

Office Equipment

£98	To Balance at 31st December 1949 brought forward	£97 16 8

" International Code (Publication) "

—	To Transfer from Income and Expenditure Account	200 0 0
800	Balance at 31st December 1949 brought forward	800 0 0
£800		£1,000 0 0

he Year ended 31st December 1950

1949 £	£	£	EXPENDITURE	£ s. d.	£ s. d.	£ s. d.
			By Administration Expenses :			
			Salaries :			
		167	Publications Officer ...	170 19 0		
		37	Stenographer Secretary	33 4 5		
	204				204 3 5	
	—		Travelling Expenses		71 0 4	
	204		Office Expenses		249 17 2	
	21		Audit Fee		21 0 0	
429						546 0 11
20			Depreciation of Office Equipment			17 17 11
2,384			Publications—Bulletin of Zoological Nomenclature			394 12 3
159			Balance carried down being excess of Income over Expenditure for the year ...			1,919 3 3
2,992						£2,877 14 4
			By Transfer to " International Code (Publication)" Suspense Account towards cost of Revision of International Code			200 0 0
—						
829			Balance carried to Balance Sheet			2,547 15 7
£829						£2,747 15 7

Suspense Account

128	By Expenditure during year	— — —
422	Balance carried to Balance Sheet	422 1 8
£550		£422 1 8

Reserve

£98	By Balance carried to Balance Sheet	£97 16 8

Suspense Account

800	By Balance carried to Balance Sheet ...	1,000 0 0
£800		£1,000 0 0

CORRIGENDA

page 25. Line 10 : substitute “ Dugès ” for “ Dugés.”

page 67. Line 19 : substitute “ current ” for “ curreet.”

page 116. Line 3 from bottom : substitute “ *Tettigonia* ” for “ *Tettigona.*”

page 120. Line 27 : substitute “ *fluviat.*” for “ *fluviat* ”.

page 121. Line 21 : substitute “ *Laciniaria* ” for “ *Lacinaria.*”

page 124. Line 24 : delete whole line (*Bulimus lineatus*).

page 126. Line 10 : substitute “ *acuta* ” for “ *ocuta.*”

page 126. Line 21 (end) : substitute “ *biplicatus* ” for “ *biplaticus.*”

page 127. Between lines 2 and 3 : Insert new line : “ *lineatus* Draparnaud 1801 (67) . . . *Bulimus lineatus.*”

page 127. Line 12 : substitute “ Menke ” for “ Monke.”

page 127. Line 14 : substitute “ Linnaeus ” for “ Lainneus.”

page 127. Line 20 (end) : substitute “ *parvula* ” for “ *parvala.*”

page 128. Line 8 (end) : substitute “ *lacustris* ” for “ *lacuitris.*”

page 128. Line 12 : substitute “ Paladilhe ” for “ Paladilho.”

page 128. Line 12 (end) : substitute “ *moitessierianum* ” for “ *moitessieranum.*”

page 128. Line 19 (end) : substitute “ *subtruncatum* ” for “ *subtrancatum.*”

page 169. Line 12 : substitute “ *Jahreshefte* ” for “ *Jahrshefle.*”

page 169. Line 22 : substitute “ *aurigerus* ” for “ *aurigera.*”

page 221. Line 20 : substitute “ 1938 ” for “ 1838.”

page 283. Line 23 : substitute “ uniformly observed, there would be no basis for questioning the specific trivial ” for the whole of this line.

page 287. Line 16 : substitute “ 1839 ” for “ 1939.”

page 288. Line 1 : delete “ almost.”

page 317. Last 2 lines : substitute “ *Myersia* Viereck, 1912 ” for “ *Rhypodes* Stål, 1868.”

page 335. Line 2 : substitute “ W. J. ARKELL ” for “ W. K. ARKELL.”

page 346. Line 1 : substitute “ EMENDATION ” for “ AMENDATION.”

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